The Relationship between the General Sense of the Ability to Adapt and Academic

Stress in University Students: The Moderating Effect of Social Support

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Abstract

In today's academic environment, it seems to be becoming ever more important that students show mental resilience. Rising numbers of stress and performance pressure in Dutch students call for a solution. Therefore, it is crucial that we understand some protective factors for academic stress. This paper will focus on the connection between generic sense of ability to adapt, which relates to, in this case, a student's adaptability to new or surprising conditions, and academic stress in University students, whilst researching the moderating effect of social support on the aforementioned relationship. University students will be the target group for this study as this study focuses on academic stress. Using cross-sectional data of 105 participants, the research questions were tested through a simple linear regression and a process MACRO for moderation analysis. Significant results were found for the main effect of adaptability on academic stress. However, no significant results were found for the moderating effect of social support on the main effect. This study contributes to the understanding of the importance of adaptability on stress management in students and assessing the moderating effect of social support. By identifying important factors in the management of stress in students, interventions can be designed to aid students to ensure higher academic success.

Keywords: academic stress, sense of adaptability, social support

Introduction

In today's academic environment it seems to become ever more important that students show mental resilience. Rising academic demands and societal pressure have made academic stress a relevant and pressing issue for university students. Academic stress can be understood as the psychological and mental strain that results from academic demands (Pascoe et al., 2020). These demands can include, but are not limited to studying, larger workloads, pressure to perform and changing social contexts. However, more specifically academic stress can be defined as a response to academic challenges that push a student's ability to cope properly (Pascoe et al., 2020). In the Netherlands, the Rijksoverheid (Government of the Netherlands)and Trimbos (2021) report in a study that 97% of students experience stress with over half of these students experiencing 'severe' stress. This has been linked to competitive academic environments, accompanying pressure to meet the standards in said environments but also concerns about future career options (Douwes et al., 2023) In the more specific context of Dutch universities, stressors such as strict deadlines, frequent assessments and high expectations for independent and individual learning arose (Douwes et al., 2023). Moreover, there are a multitude of factors that play into the development of this academic stress, for example, workload, time management, academic pressure and social comparisons (Akgun & Ciarrochi, 2003). The experience of this stress can manifest itself in different ways that are not only debilitating to academic performance but also general well-being.

To elaborate, academic stress can result in several difficulties, presenting both physically and mentally, thereby impairing performance and health. Most prevalent are fatigue, headaches and sleeping issues, but also difficulty concentrating, heightened feelings of anxiety and feelings of loneliness and helplessness (Beiter et al., 2015), highlighting that the consequences of academic stress go beyond academic performance Academic stress in

itself is problematic, however, research suggests that there are also protective variables at play that are crucial in mitigating academic stress, an example of which is the generic sense of ability to adapt.

Generic Sense of Ability to Adapt

The generic sense of ability to adapt (GSAA), also known as adaptability in current literature, plays a central role in enabling students to effectively cope with academic frustrations and stress and refers to an individual's overall perceived ability to adjust to changing circumstances or challenges (Franken et al., 2023; *APA Dictionary Of Psychology*, n.d.). Recent studies emphasize how crucial GSAA is for general health and well-being in varying contexts and manifestations, such as in managing academic stress. Adaptability fosters resilience, which also allows students to recover more easily from setbacks in stressful situations (Cassidy, 2015). Moreover, it provides students with handles that help them to employ effective coping strategies and respond appropriately to challenging situations. A study done on a German population of students shows that students who score higher in adaptability were more likely to employ coping mechanisms during challenging periods, limiting the impact of stress (Efimov et al., 2024). So, students with greater levels of adaptability can cope with academic demands more efficiently, leading to better emotional regulation and lowered stress responses (Thomas & Zolkoski, 2020). Lastly, Bohlmeijer and Westerhof (2021) propose the Model for Sustainable Mental Health, which combines positive psychology with mental health care. It aims to promote long-term resilience and well-being. The framework emphasizes adaptability as an important factor for sustaining mental health, suggesting that strengths such as self-compassion and optimism can positively influence an individual's ability to cope with (academic) challenges. This highlights the role of adaptability in mitigating the effects of high academic demands. Considering the positive effect of

adaptability on decreasing the experience of stress, it should be examined how one can attain better adaptability.

So, adaptability is the capacity to modify behaviours, thoughts or emotions to help navigate changing circumstances effectively (Darlington-Bernard, 2015). Additionally, adaptability research has shown that students with a higher level of this trait are more likely to experience lower levels of stress, as they are more likely to employ tactics that help them manage workload fluctuations and academic pressure (Martin, 2012). Adaptability, or GSAA, seems to be trainable and appears to function as a trait. Tönis et al. (2024) report that, based on an intervention, sense of ability to adapt improved over time, seemingly as a result of a positive psychology intervention (PPI). This supports the fact that GSAA is a trainable facet, and can thus be improved upon and worked with. In this specific intervention, GSAA was improved using an app-based learning method that focused on the underlying skills, for example, self-compassion and positive reinterpretation. A different factor also seems relevant for this research, namely social support.

Social Support

Perceived social support is critical in the academic advancement and emotional well-being of university students, particularly when managing stress and fostering adaptability. (Perceived) social support concerns the feeling that one can rely on a network of friends, family and peers who can help in several ways, such as, emotional, practical and informational, which is especially important during times of need (Taylor, 2011). Research by Litwic-Kaminska et al. (2023) shows that perceived social support plays a significant role in dealing with stress by helping a person feel more able to deal with challenging circumstances and choosing effective coping mechanisms. More specifically, social support is crucial for university students as they face several challenges with regards to academic demands, social demands and responsibilities, as these demands typically elicit stress. Additionally, students

who have stronger support systems tend to experience lower levels of academic stress, as they are more likely to fall back on their social network for help and support (McLean et al., 2022).

In the context of the relationship between sense of ability to adapt and academic stress, perceived social support could be a vital moderating factor. Students with a higher sense of ability to adapt are employed to more effectively respond to challenging situations, more importantly, those who experience higher social support are even better equipped to face challenges (Holliman et al., 2021). This poses that, whilst adaptability directly influences the experience of academic stress, social support can have a positively enhancing effect on this relationship. In their research, Hefner and Eisenberg (2009) showed that students who experienced higher social support were more likely to use adaptive coping strategies, such as seeking guidance and problem-solving, which in turn reduced levels of stress. On the other hand, students who lacked the feeling of social support, struggled with adapting, thereby experiencing higher levels of stress. Similarly, social support has been widely acknowledged as a trait that helps mitigate stress, specifically in academic settings. A strong social network provides students with the necessary resources to deal with stress effectively. However, while it has been researched in a moderating effect in various relationships, little was found in this specific context, the association between adaptability and academic stress. Lastly, a study by Chen et al. (2023) showed that social support has a positive influence on academic engagement among university students. In turn, this increased engagement may help relieve or forego academic stress through a sense of belonging and motivation. This finding suggests that social support can play a crucial role in aiding students and reducing their stress levels. Thus, it appears evident that the overall moderating effect of social support in this specific context is crucial to research.

Objective

Levels of stress are on the rise for university students. Since a significant association exists between both GSAA and social support on academic stress, and social support has the potential to play a moderating role, it is useful to further explore this specific interaction to gain an understanding of the working mechanisms and to potentially offer students help when encountering difficulties. Additionally, there does not seem to be extensive research on the moderating association of social support in this specific association, especially in an academic setting.

The purpose of this study is to examine the relationship between the generic sense of ability to adapt and academic stress, and to what extent the relationship between the generic sense of ability to adapt and academic stress is moderated by social support. Based on this, it is expected that higher levels of GSAA are associated with lower levels of academic stress in university students. Moreover, it is expected that social support enhances the association between GSAAS and academic stress in university students, A schematic representation of the hypotheses can be found in Figure 1.

Figure 1

Visualisations of the Hypothetical Relationships Explored in this Study
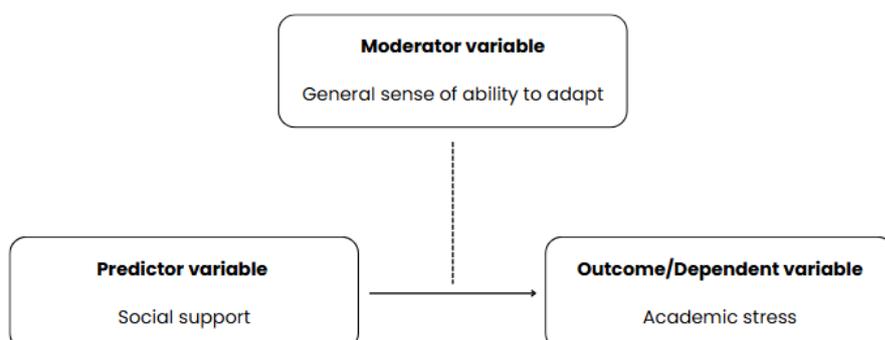
Method

Design

A quantitative, cross-sectional online survey study was performed for this research, in collaboration with another student. In this study design, the variables that will be investigated are *generic sense of the ability to adapt (GSAA), academic stress and social support.* GSAA was the predictor variable, academic stress was the outcome variable and social support was the moderator variable. This resulted in data collection consisting of three different questionnaires and 4 questions about demographic information, adding up to a total of 47 questions, aligning with the variables looking to be researched. This survey was created and data was gathered with Qualtrics.

Participants

A total of 145 people responded to the survey. The participants were reached through the method of convenience sampling on several different platforms. Out of the 145 responses the survey received, 40 responses were excluded because they did not fill in all the questions or incorrectly answered the attention check questions. These attention check questions entailed simple items, such as "For this statement, select ' 1- Strongly Agree'", to ensure participants were actively engaging with the questionnaires. Moreover, participants had to be 16 years or older (as in line with the guidelines provided by the University), study at any Dutch university and be fluent in English to participate in the survey.

An a priori power analysis was conducted using G*Power version 3.1.9.7 (Faul et al., 2007) to determine the minimum sample size required to test the study hypothesis. Results indicated the required sample size to achieve 80% power for detecting a small to medium effect, at a significance criterion of $\alpha = .05$, was $N = 68$ for a moderation analysis. Thus, the obtained sample size of $N = 105$ is adequate to test the study hypothesis.

Therefore, the final sample consisted of 105 participants, of whom 65.71% were female ($n = 69$), 31.43% were male ($n = 33$), and 2.86% were non-binary ($n = 3$). Participants' ages ranged from 18 to 30 years ($M = 21.42$, $SD = 2.19$). Additionally, 38.10% of the participants were of Dutch nationality ($n = 40$), 25.71% were of German nationality ($n = 27$) and the rest of the participants were from other countries. Further details about the sample's demographics are summarized in Table 1.

Table 1

Socio-Demographic Information of the Sample (N= 105)

Characteristic	n	Percentage (%)
Gender		
Female	69	65.71%
Male	33	31.43%
Non-binary/other	3	2.86%
Age		
Mean	21.42	
Standard deviation	2.19	
Nationality		
Dutch	40	38.10%
German	27	25.71%
Russian	7	6.67%
Kazakh	5	4.76%
Ukrainian	3	2.86%
Romanian	3	2.86%
Hungarian	2	1.90%
Indonesian	2	1.90%

German/Turkish	2	1.90%
Other	14	13.34%
Field of study		
Psychology	51	48.57%
Communication Science	11	10.48%
Computer Science	9	8.57%
Mechanical Engineering	5	4.76%
Business & IT	4	3.81%
Business	2	1.90%
Chemical Engineering	2	1.90%
Industrial Design Engineering	2	1.90%
International Business Administration	2	1.90%
Medicine	2	1.90%
Social Sciences	2	1.90%
Other	13	12.41%

Materials

Perception of Academic Stress Scale (PAS)

The Perception of Academic Stress (PAS) scale assesses a student's perception of experienced academic stress, specifically in the context of the education environment (Bedewy & Gabriel, 2015). The PAS consists of 18 items that focus on three different dimensions of academic stress; academic expectations, workload and exams, and academic self-perceptions (Bedewy & Gabriel, 2015). The items are divided into two scales, one measuring positive perceptions and one measuring negative perceptions related to academic stress. Examples of positive items are, "I can make academic decisions easily" and "The time

allocated to classes and academic work is enough". Each item is rated on a Likert-scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Examples of negative items are "I fear failing courses this year" and "The size of the curriculum is excessive". The response items for the negative items were reversed in this scale as items are rated on a Likert-scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree) (Bedewy & Gabriel, 2015). The PAS uses total scores, where higher scores indicate lower levels of perceived academic stress. The PAS shows good internal consistency reliability as the original study reported an overall Cronbach's alpha of 0.70, which is deemed acceptable (Bedewy & Gabriel, 2015; Cohen & Williamson, 1988). The Cronbach's alpha in this study was 0.82, which is deemed 'good'.

Generic Sense of Ability to Adapt Scale (GSAAS)

The Generic Sense of Ability Scale (GSAAS) measures one's perceived ability to adapt to various challenges or changes, often in several different contexts, such as work, academics or personal life (Franken et al., 2023). The GSAAS consists of ten items, each ranked on a Likert scale ranging from 0 (Not At All) to 4 (Always). Examples of items are "I can easily handle setbacks" and "If I encounter difficulties, I can find a way out". The GSAAS makes use of total score where a higher total score indicates a stronger perceived ability to adapt (Franken et al., 2023). In its original study, the GSAAS showed good internal consistency reliability (Cronbach's $\alpha = 0.87$) (Franken et al., 2023). The Cronbach's alpha in this study was 0.85, which is deemed good.

Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS) measures feelings of perceived social support across three main domains: support from family, friends, and significant others. The scale consists of 12 items and each item is ranked on a Likert scale ranging from 1 (Very Strongly Disagree) to 7 (Very Strongly Agree). Examples of the items are "I get the emotional help and support I need from my family" and "I can count on my

friends when things go wrong". The MSPSS makes use of sum score for the entire scale and per subscale. Lower scores represent low levels of social support and higher scores represent high levels of social support. Overall, the internal consistency reliability of the MSPSS is excellent, with Wongpakaran et al. (2011) reporting a Cronbach's alpha of 0.91. In this study, Cronbach's alpha was 0.90, which falls in the 'excellent' range.

Procedure

Before data collection, the study was approved by the Ethics Committee of the Behavioural, Management, and Social Sciences Faculty of the University of Twente. Overall, the procedure of data collection lasted from the 11th of November until the 13th of December 2024. The survey could be accessed through different routes. The survey was sent out on Whatsapp, Instagram, Telegram and Linkedin. In these social media posts, a picture and a short text were shared (see Appendix A). In this short text, both the link to obtain SONA points and the regular Qualtrics (www.qualtrics.com) link were included. By including both of these links, participants could opt for either option based on whether they needed SONA points. Additionally, the research was uploaded to the SONA environment of the University of Twente (UT). In SONA, Psychology and Communication Science students can sign up to participate in research to obtain SONA points. Students need these points to finish their Bachelor's degree. This way, students from the Psychology or Communication Science departments could log into their SONA, select our study and get access to the link of our survey. Upon opening the link and accessing the survey, participants were informed about the goal of the study (Appendix B) and asked for their consent to participate (Appendix C). This informed consent included the right to halt participation and the right to safe data storage. Upon providing their permission, participants were then requested to provide some demographic information (age, gender, nationality, and field of study). To ensure participants met the inclusion criteria, two items were forced: the acceptance of the informed consent and

the age demographic question. Then, participants were asked to fill in the PAS, GSAAS and the MSPSS. Upon completion, participants were thanked for taking part in the research. Additionally, participants were given all researchers' contact information in case of further questions or comments. The average response time of the survey was approximately 13 minutes.

Data analysis

A deductive approach was applied since this study intended to look into the moderating association of social support on the relationship between the independent variable, GSAA and the dependent variable, academic stress. All responses were gathered in Qualtrics and then downloaded and imported into RStudio (version 4.3.2.). Before starting data analysis, the data was cleaned. Responses were deleted based on exclusion criteria, when the responses were incomplete or when the attention check questions were answered incorrectly. The data was also formatted correctly to be further analysed using RStudio (version 4.3.2).

After the preparation of the data set, Cronbach's alpha was computed for each scale. Then, descriptive analysis for all questionnaires was performed to provide a summary of the data for all three scales.

Before conducting the analyses for the main and moderation effects, the normality assumption was tested. This was done using histograms to check the distribution of the scores physically and the Shapiro-Wilk test, to test for a W-value of 1 or close to one and a p-value of higher than 0.05 for the acceptance of the normality assumption. After this, a simple correlation matrix was computed, to offer an initial depiction of the associations between the variables. The main effect of GSAA on academic stress was analysed using a simple linear regression model. Finally, a moderation analysis model was run to determine the moderating effect of social support on the main association between GSAA and academic stress. Moderation analysis was conducted using Process MACRO (Hayes, 2013). The Process

MACRO was chosen as it is commonly applied for moderation analysis and because it automates complex modelling steps, making data analysis easier.

Results

The assumption of normality was tested with histograms and the Shapiro-Wilk test. Firstly, based on the histograms, it became clear that PAS and GSAAS scores did not violate the normality assumption, while MSPSS did. The MSPSS histogram showed a negatively skewed distribution. The output of the Shapiro-Wilk tests can be found in Table 2. For all three constructs, the p-value determined by the Shapiro-Wilk test indicates that the scores on the PAS and GSAAS are close to being normally distributed ($p = .11$ and $.58$ respectively), while that of the MSPSS is not ($p = .03$).

Additionally, the means and standard deviations were calculated to give a description of the data. The mean score for academic stress was 3.19 (scores could range from 1 to 5) with a standard deviation of 0.55, the mean score for social support was 5.29 (scores could range from 1 to 7) with a standard deviation of 1.03 and the mean score for adaptability was 2.47 (scores could range from 0 to 4) with a standard deviation of 0.54

Table 2

Outcomes of the Shapiro-Wilk Test for the PAS, GSAAS, and MSPSS

Variable	W-statistic	*p*
PAS	.98	.11
GSAAS	.99	.58
MSPSS	.97	.03

The correlation matrix provided in Table 3 reveals that all correlations are positive and significant. The highest correlation was found between GSAAS and academic stress. A moderate positive correlation was found between adaptability and social support. Lastly, a weak positive correlation was found between academic stress and social support.

Table 3

Correlation Matrix of PAS, GSAAS, and MSPSS

Variable	Academic Stress	Adaptability	Social Support
Academic Stress	-	.67*	.36*
Adaptability	-	-	.41*
Social Support	-	-	-

indicates p < .05

** indicates p < .01*

Simple linear regression

The overall model of adaptability on academic stress, was significant, with $R^2 = .449$, $F(1, 103) = 83.96$, $p < .001$. The coefficient for GSAAS indicated a significant positive effect on PAS, $B = 0.6748$, 95% CI [0.5299, 0.8197], $p < .001$. Furthermore, the regression coefficient was 1.52 with a standard error of 0.19, suggesting a positive relationship between the sense of ability to adapt and academic stress. This finding indicates that an increase in adaptability is associated with a decrease in stress. This association was also highly statistically significant ($p < .001$). The results of this simple linear regression model are presented in Table 4.

Table 4

Summary of the Simple Linear Regression Model including T-value and P-value

Variable	Coefficients	Standard Error	t-value	p-value
Intercept	1.52	.19	8.21	<.001
Adaptability	.67	.07	9.16	<.001

Note. R^2 = 0.4491

Moderation Analysis

The moderation analysis examined whether MSPSS (social support) moderated the relationship between GSAAS (adaptability) and PAS (academic stress). The moderation model indicated that approximately 45.92% of the variance in academic stress was explained by GSAAS and social support. The overall model was significant, R^2 = .459, $F(3, 101)$ = 28.58, $p < .001$. However, none of the coefficients for the predictors (GSAAS, MSPSS, and their interaction) indicated significant individual effects on PAS. The interaction term (GSAAS × MSPSS) was not significant, B = −0.0126, 95% CI [−0.1602, 0.1350], p = .866. The results of the moderation analysis are presented in Table 5.

Table 5

Detailed Summary of the Moderation Analysis

Predictor	Coefficients	Standard Error	t-value	p-value	lower	upper
Intercept	1.17	.99	1.18	.24	-.80	3.13
Adaptability	.70	.42	1.66	.10	-.14	1.54
Social Support	.09	.18	.49	.63	-.27	.44
GSAAS:MSPSS	-.01	.07	-.17	.87	-.16	.14

Note. Confidence interval = 95%; N = 105. R^2 = 0.4592

Discussion

The current research paper aimed to investigate the relationship between adaptability and academic stress, additionally focusing on how social support moderates this relationship. A quantitative online study with 105 participants was conducted. The first research question was related to the main effect between the predictor variable, adaptability, and the outcome variable, academic stress. The results showed a significant association. The second research question focused on the moderating effect of social support on the main effect between adaptability and academic stress. This research question yielded no significant results, revealing that no significant moderation effect was found.

Main findings

Considering the first hypothesis, it was proposed that adaptability would have a negative relationship with academic stress, meaning that if adaptability was high, academic stress scores would be low. It should be noted that, in the data analysis this is represented as a positive correlation, as high scores on the PAS indicate lower levels of academic stress. This hypothesis showed significant results, meaning the hypothesis was accepted. The results of the current study aligns with pre-existing research about the role of adaptability in mitigating stress responses in academic contexts. A study by Zimmer-Gembeck & Skinner (2016) examined coping mechanisms and highlights how adaptability enables students to effectively regulate their responses to academic stress. This research explains that, by adjusting their learning strategies and emotional responses, adaptable students are able to manage academic challenges better, which then leads to reduced stress levels. Another study corroborates this finding, Burns et al. (2018) conducted a study that focused on examining the role of adaptability in academic outcomes and found that students with higher adaptability experienced lower stress and achieved higher academic goals. The findings of this study suggest that adaptability helps students navigate academic pressure more effectively.

Similarly, Collie et al. (2016) focused on adaptability research in university settings and found that adaptable students were more engaged in coursework and reported lower levels of academic stress. Their study emphasises the role of adaptability in self-study, explaining that students who can adjust their behavioural and emotional responses to academic challenges were better at maintaining motivation and avoiding stress-induced burnout.

For hypothesis two, it was expected that social support would have a moderating effect on the association between adaptability and academic stress. The results of the multiple linear regression reveal that no significant moderating effect of social support was found on the association between adaptability and academic stress. While this does not align with hypothesis 2 as proposed in the current study, it is in line with other research. Recent research by Wapaño (2024) focused on the relationship among hope, academic stress and social support, specifically in university students, comparative to the current study. The research assessed the levels of hope and academic stress, and explored how various forms of support affect academic stress. Wapaño (2024) found only negligible and statistically non-significant correlations between various types of social support and academic stress, indicating a minimal impact of social support of stress levels. Comparably, Wilks (2008) examined the relationship between academic stress and perceived resilience among students, importantly, identifying social support as a protective factor. The study found that social support significantly moderated the negative association between academic stress and resilience, however, more importantly, not adaptability. The findings of this study highlight that, while social support is generally beneficial, its moderating role in the relationship between adaptability and academic stress is not significant. Wilks (2008) hypothesized that other factors, such as coping strategies and personal resilience, play a more important role in managing academic stress.

Strength and limitations

This study contains strengths and limitations which should be investigated further. A clear strength of this study and its findings was the large sample size. An adequate sample size is crucial to achieve sufficient statistical power, as it ensures that the likelihood of Type II errors is reduced. Although 105 is not as large as population-level studies, it was sufficient for this study which is based on G power analysis.

Firstly, an important limitation is the rather homogenous sample. Women made up the majority of the participants. Additionally, a large part of the sample was Psychology students. As this study did not intend to have a specific focus on either of these two groups but rather on a student population as a whole, this can be seen as not sufficiently reflecting the general student population and thus offering a skewed representation. To avoid a homogenous sample in future research, it is crucial to look at the manners of distribution. In general, women are overrepresented in the Psychology domain (Gruber et al., 2020). As the survey was mainly distributed amongst Psychology students, it is logical for the responses to be largely from female respondents. Therefore, a focus should lie on distributing the survey amongst different studies to attempt to attain more male respondents and to create a more diverse sample in terms of study subjects.

Moreover, the reliance on self-reports for the measures used in this study may introduce a certain bias, for example, inaccurate self-assessment and social desirability. Individuals may struggle to accurately evaluate oneself. This can be because of a lack of self-awareness or because individuals receive flawed feedback (Carter & Dunning, 2007). Social desirability bias can be explained as the tendency of individuals to present themselves more favourably during self-reports. This bias leads to participants either overreporting behaviours and traits they deem socially approved and underreporting those they deem less desirable (Fisher, 1993). Both these biases challenge the validity of self-reported data. To avoid these

biases in future research, several steps can be taken. First, it is important to give participants a particular time frame when answering questions. For example, a good idea for the questions would be to add "For the past week..", to ensure that participants give answers that are as precise as possible. Additionally, it could be a possibility to look into gathering this data and then combine it with behavioural observations or physiological measures. This way findings can be cross-validated.

Additionally, while levels of stress were measured, it was only measured at one point in time. Because of this cross-sectional design, it is difficult to draw conclusions about the potential moderating effect. This could be because the main effect of GSAA on academic stress is strong enough to mitigate lower stress levels, without an individual reaching for social support for further aid. In the future, it is important to measure these stress reports over more than one time point. This way, an estimate can be made about the fluctuation in stress levels and based on this, more concrete conclusions can be drawn from the data, especially about the moderation analysis. Though the goal of this research is explorative, the findings do point to a need for more extensive research, where determining causality and experience over time are of interest.

Conclusion

With one hypothesis accepted and one rejected, this study revealed interesting information. Firstly, a significant result of the main effect research was established. This adds onto existing literary frameworks that sense of ability to adapt, or adaptability, is a predictor for academic stress. The moderation analysis did not yield significant results. This study highlights the complexity of the relationships between adaptability, social support, and academic stress. While the findings do not provide support for the moderation hypothesis, they contribute to the ongoing discussion in the literature. Additionally, this research has highlighted the need for further research. Finding other variables that may play a crucial role

and other similar relationships is important because they have the potential to positively influence the mental well-being of university students and to help universities facilitate this well-being. Finding ways to manage students' stress is crucial to ensure they do well in their respective programmes and to enable students to have a positive learning experience.

References

Akgun, S., & Ciarrochi, J. (2003). Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educational Psychology*, 23(3), 287-294.

APA Dictionary of Psychology. (z.d.). https://dictionary.apa.org/adaptability

Bedewy, D., & Gabriel, A. (2015). *Examining perceptions of academic stress and its sources among university students: The Perception of Academic Stress Scale*. Health Psychology Open, 2(2), 1-9.

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders*, 173, 90-96. https://doi.org/10.1016/j.jad.2014.10.054

Bohlmeijer, E., & Westerhof, G. (2021). The Model for Sustainable Mental Health: Future Directions for Integrating Positive Psychology Into Mental Health Care. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.747999

Burns, E. C., Martin, A. J., & Collie, R. J. (2018). Adaptability, personal best (PB) goals setting, and gains in students' academic outcomes: A longitudinal examination from a social cognitive perspective. *Contemporary Educational Psychology*, *53*, 57–72. https://doi.org/10.1016/j.cedpsych.2018.02.001

Carter, T. J., & Dunning, D. (2007). Faulty Self-Assessment: Why evaluating one's own competence is an intrinsically difficult task. *Social and Personality Psychology Compass*, *2*(1), 346–360. https://doi.org/10.1111/j.1751-9004.2007.00031.x

Cassidy, S. (2015). Resilience Building in Students: The Role of Academic Self-Efficacy. *Frontiers in Psychology*, *6*. https://doi.org/10.3389/fpsyg.2015.01781

Chen, C., Bian, F., & Zhu, Y. (2023). The relationship between social support and academic engagement among university students: the chain mediating effects of life satisfaction and academic motivation. *BMC Public Health*, *23*(1). https://doi.org/10.1186/s12889-023-17301-3

Cohen, S., & Williamson, G. (1988). *Perceived stress in a probability sample of the United States*. In S. Spacapan & S. Oskamp (Eds.), The social psychology of health (pp. 31-67). Sage.

Collie, R. J., Holliman, A. J., & Martin, A. J. (2016). Adaptability, engagement and academic achievement at university. *Educational Psychology*, *37*(5), 632–647. https://doi.org/10.1080/01443410.2016.1231296

Douwes, R., Metselaar, J., Pijnenborg, G. H. M., & Boonstra, N. (2023). Well-being of students in higher education: The importance of a student perspective. *Cogent Education*, *10*(1). https://doi.org/10.1080/2331186x.2023.2190697

Efimov, I., Agricola, C. J., Nienhaus, A., Harth, V., Zyriax, B., & Mache, S. (2024). Stress perception, coping behaviors and work-privacy conflict of student midwives in times of COVID-19 pandemic: the "Healthy MidStudents" study in Germany. *BMC Health Services Research*, *24*(1). https://doi.org/10.1186/s12913-024-10823-5

Faul, F., Erdfelder, E., Lang, A., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/bf03193146

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research*, *20*(2), 303. https://doi.org/10.1086/209351

Franken, K., Schuffelen, P., Klooster, P. T., Van Doesum, K., Westerhof, G., & Bohlmeijer, E. (2023). Introduction of the generic sense of ability to adapt scale and validation in

a sample of outpatient adults with mental health problems. *Frontiers in Psychology*,
14. https://doi.org/10.3389/fpsyg.2023.985408

Gold, D. T., Spacapan, S., & Oskamp, S. (1990). The Social Psychology of Health.
Contemporary Sociology A Journal Of Reviews, *19*(1), 120.
https://doi.org/10.2307/2073512

Gruber, J., Mendle, J., Lindquist, K. A., Schmader, T., Clark, L. A., Bliss-Moreau, E.,
Akinola, M., Atlas, L., Barch, D. M., Barrett, L. F., Borelli, J. L., Brannon, T. N.,
Bunge, S. A., Campos, B., Cantlon, J., Carter, R., Carter-Sowell, A. R., Chen, S.,
Craske, M. G., . . . Williams, L. A. (2020). The Future of Women in Psychological
Science. *Perspectives On Psychological Science*, *16*(3), 483–516.
https://doi.org/10.1177/1745691620952789

Hayes, A. F. (2013). Introduction to Mediation, Moderation, and Conditional Process
Analysis: A Regression-Based Approach. https://ci.nii.ac.jp/ncid/BB1323391X

Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students.
American Journal of Orthopsychiatry, 79(4), 491-499.
https://doi.org/10.1037/a0016918

Holliman, A. J., Waldeck, D., Jay, B., Murphy, S., Atkinson, E., Collie, R. J., & Martin, A.
(2021). Adaptability and Social Support: Examining Links With Psychological
Wellbeing Among UK Students and Non-students. *Frontiers in Psychology*, *12*.
https://doi.org/10.3389/fpsyg.2021.636520

Koopman, K. (2022, 10 november). Nieuw onderzoek naar prestatiedruk bij studenten.
Trimbos-instituut. https://www.trimbos.nl/actueel/nieuws/nieuw-onderzoek-naar-
prestatiedruk-bij-studenten/

Litwic-Kaminska, K., Błachnio, A., Kapsa, I., Brzeziński, Ł., Kopowski, J., Stojković, M.,
Hinić, D., Krsmanović, I., Ragni, B., Sulla, F., & Limone, P. (2023). Resilience,

Positivity and Social Support as Perceived Stress Predictors among University Students. *International Journal Of Environmental Research And Public Health*, *20*(19), 6892. https://doi.org/10.3390/ijerph20196892

McLean, L., Gaul, D., & Penco, R. (2022). Perceived Social Support and Stress: a Study of 1st Year Students in Ireland. *International Journal Of Mental Health And Addiction*, *21*(4), 2101–2121. https://doi.org/10.1007/s11469-021-00710-z

Ministerie van Onderwijs, Cultuur en Wetenschap & Ministerie van Volksgezondheid, Welzijn en Sport. (2021, 11 november). *Mentale gezondheid studenten onder druk*. Nieuwsbericht | Rijksoverheid.nl. https://www.rijksoverheid.nl/actueel/nieuws/2021/11/11/mentale-gezondheid-studenten-onder-druk

Park, C. L., & Folkman, S. (1997). Meaning in the context of stress and coping. *Review of General Psychology, 1*(2), 115–144. https://doi.org/10.1037/1089-2680.1.2.115

Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104-112.

Rijksoverheid. (2021, November 11). Mentale gezondheid studenten onder druk. https://www.rijksoverheid.nl/actueel/nieuws/2021/11/11/mentale-gezondheid-studenten-onder-druk

Taylor, S. E. (2011). Social support: A role in buffering stress and promoting health. In *The Oxford Handbook of Health Psychology* (pp. 145-168). Oxford University Press.

Thomas, C., & Zolkoski, S. (2020). Preventing Stress Among Undergraduate Learners: The Importance of Emotional Intelligence, Resilience, and Emotion Regulation. *Frontiers in Education*, *5*. https://doi.org/10.3389/feduc.2020.00094

Tönis, K. J. M., Kraiss, J. T., Drossaert, C. H. C., Karreman, J., Oostinga, M. S. D., Kloos, N., Austin, J., & Bohlmeijer, E. T. (2024). Regaining Mental Well-Being in the Aftermath of the Covid-19 Pandemic with a Digital Multicomponent Positive Psychology Intervention: A Randomized Controlled Trial. *Journal Of Happiness Studies*, *25*(7). https://doi.org/10.1007/s10902-024-00793-0

Wapaño, M. R. R. (2024). The predictive roles of hope and social support in academic stress. *International Multidisciplinary Research Journal*, *6*(4). https://doi.org/10.54476/ioer-imrj/462413

Wilks, S. E. (2008). Resilience amid Academic Stress: The Moderating Impact of Social Support among Social Work Students. *Advances in Social Work*, *9*(2), 106–125. https://doi.org/10.18060/51

Wongpakaran, T., Wongpakaran, N., & Ruktrakul, R. (2011). Reliability and Validity of the Multidimensional Scale of Perceived Social Support (MSPSS): Thai Version. *Clinical Practice And Epidemiology in Mental Health*, *7*(1), 161–166. https://doi.org/10.2174/1745017901107010161

Wu, Y., Sang, Z., Zhang, X., & Margraf, J. (2020). The Relationship Between Resilience and Mental Health in Chinese College Students: A Longitudinal Cross-Lagged Analysis. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.00108

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). *The Multidimensional Scale of Perceived Social Support*. Journal of Personality Assessment, 52(1), 30-41.

Zimmer-Gembeck, M. J., & Skinner, E. A. (2016). The development of coping: Implications for psychopathology and resilience. *Developmental Psychopathology*, *4*, 1–61. https://doi.org/10.1002/9781119125556.devpsy410

Appendix A

Survey Promotion

The following appendix contains the image and the message that was sent out during recruitment.

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 minutes 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://utwentebs.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

Appendix B

General information

This appendix includes the text that participants were presented with at the beginning of the survey. It informs the participants of what the study entails and what to expect.

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 C

Informed Consent

This appendix includes a screenshot of the page in the survey that participants were shown to explain informed consent and where the indication could be given to consent or not 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