

Bachelor Thesis  
**The Relationship of Coping Strategies, Stress, and Mental Well-Being in University  
Students**

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## **Abstract**

### **Background**

In their daily life, students face a lot of challenges that can influence their stress levels as well as their mental well-being. The employed coping strategies to deal with this can thus play a role in the relationship of stress and mental well-being.

### **Aim of the study**

This study explored the relationship between stress, coping strategies, and mental well-being among university students. The research aimed to assess stress levels, mental well-being, and the role of different coping strategies.

### **Methods**

The study was conducted using a cross-sectional study design. Overall, the sample included 102 students who filled in an online survey. The scales used in this study were the MHC-SF to measure mental well-being, the Brief COPE to measure coping strategies and the SLC to measure stress. Analyses conducted in R included an exploratory factor analysis, correlations, and finally, a multiple regression analysis.

### **Results**

The findings revealed that students experienced moderate stress levels and lower mental well-being compared to established norms. A significant negative correlation was found between stress and mental well-being. Further analysis showed that problem-focused coping had a positive relationship with mental well-being, suggesting that proactive coping strategies can enhance mental health. Problem-focused coping showed no moderation effect on the relationship between mental well-being and stress. Emotion-focused coping neither showed to have a relationship with mental well-being nor significantly moderated the relationship between stress and mental well-being.

### **Discussion**

The study highlights the importance of teaching effective coping strategies to university students to improve their mental well-being. It emphasises the need for comprehensive systems of support by others as well as by the universities. Moreover, future research should incorporate longitudinal designs, objective measurements, diverse samples, and consistent definitions for the coping strategies to enhance generalizability and explore causal relationships.

Keywords: stress, coping strategies, mental well-being, university students, problem-focused coping, emotion-focused coping, exploratory factor analysis

## Introduction

This study aimed to investigate the relationship between coping strategies, stress, and mental well-being in university students. The three subcategories of coping strategies, namely avoidant, emotional, and problem-focused coping, have shown differing results in their effectiveness to cope with stress and its impact on mental well-being. Therefore, the study attempted to draw more results in this area, as well as testing if a moderation effect of coping strategies on stress and mental well-being can be found.

Stress is a vital part of human life. The World Health Organization (WHO) defined stress “as a state of worry or mental tension caused by a difficult situation” (WHO, 2023) which is a normal response that leads an individual to deal with the situation. Stress is further described as affecting each person differently, ranging from various emotions, having troubles to concentrate to physical pain, trouble sleeping or changes in appetite (WHO, 2023). A group that is especially prone to experience stressful situations on a daily basis are university students. They need to face a lot of challenges in day-to-day life that can cause stress and could therefore strain their mental well-being (Porru et al., 2022). Student life challenges can include issues related to the university while others concern day-to-day life. A few examples for this are financial worries, the absence of support from peers, the level of workload, or shortcomings in the faculty of the study (Porru et al., 2022).

As can be seen from the definition of stress, it can have a decent amount of impact on students' lives and their mental well-being. Mental health is described by the WHO (n.d.) as “a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community”. As can be seen from this, mental well-being can be used as a synonym for mental health. Furthermore, Keyes (2002) describes mental health as a “syndrome of symptoms of an individual's subjective well-being” (p. 208). In this case, subjective well-being is defined as people's own reflection on how their life is playing out, concerning their well-being socially, emotionally, and psychologically. Social well-being refers to how well a person can function in a setting where social criteria play a role (Keyes, 2002). Emotional well-being includes a range of symptoms that indicate how positively or negatively someone views their own life. Lastly, psychological well-being indicates “the presence and absence of positive functioning in life” (Keyes, 2002, p. 208). Mental health, mental well-being and subjective well-being therefore seem to be interchangeable names for the same concept. To ensure clarity, the term mental well-being will be used throughout the paper.

When someone experiences stress, it is harder for the person to maintain a healthy mental well-being. Stress can cause multiple different emotions, which can range from anger to crankiness to anxiety (WHO, 2023). Moreover, individuals can experience difficulties in maintaining concentration, can experience physical pain or having trouble sleeping. Stress can further influence already existing physical and mental issues (WHO, 2023). In addition, stress can be the cause of mental disorders and is often associated with anxiety and depression (WHO, 2023).

Clearly, stress can have a severe effect on university students. A study conducted by the American Health Association (2017, as cited in Hubbard et al., 2018) showed that the number of students with stress levels above the average was at 45.1%, while 12% of answers could be described as experiencing “tremendous amounts of stress”. Furthermore, 87% indicated that they “felt overwhelmed with responsibilities within the last year, and 84% felt mentally exhausted” (American College Health Association, 2017, as cited in Hubbard et al., 2018). Another survey conducted by the National College Health Assessment showed that 29.2% of university students got a diagnosis or were in treatment for their mental health (National College Health Assessment, 2017, as cited in Hubbard et al., 2018). Among those mental health conditions, the most common ones identified were “anxiety (24.3% of women and 11.4% of men) and depression (18.8% of women and 10.5% of men)” (National College Health Assessment, 2017, as cited in Hubbard et al., 2018). Furthermore, research has shown that university students are more inclined to have eating disorders or issues with substance abuse (Hubbard et al., 2018). Hubbard et al. (2018) further found evidence that the four stress categories, namely intrapersonal, performance, interpersonal and financial, can explain around 25% of the variances in the well-being of university students. They were further able to find that these stressors were also able to explain variances in eating disorders, anxiety, and depression (Hubbard et al., 2018). Other studies in this area have come to a similar conclusion. Research of Li and Hasson (2020) and Barbayannis et al. (2022) have found that academic and general stress is negatively correlated with mental well-being in students as well.

As can be seen from this, mental well-being is heavily influenced by the experienced stress of university students. To deal and cope with these stressful situations, people have developed and employed several different mechanisms, also referred to as coping mechanisms. Coping can be defined as any kind of processes, from emotional to physical, that is used to guide oneself through a challenging situation that is perceived as jeopardizing a form of stability (Blum et al., 2012). However, coping can also be used to avoid a future

jeopardization of said stability. Coping strategies have a wide range and can include, but are not limited to, acceptance of a situation, confronting a certain stressor, denial, reinterpretation, suppression or turning towards religion, humour, or making use of social support (Blum et al., 2012). Overall, research has shown that these coping strategies can be grouped together in three distinct categories: problem-focused, emotion-focused, and avoidant coping (Carver, 1997).

Problem-focused coping can be described as a proactive way to deal with the experienced stress. Therefore, it is aimed at solving the issue at hand or changing the situation to deal with the source (Carver et al., 1989). Emotion-focused coping, on the other hand, tries to reduce or control the emotional distress that resulted from the stressful situation (Carver et al., 1989). Lastly, avoidant coping “is characterized by activities and/or cognitive strategies used in a deliberate attempt to disengage from stressful situations” (Smith et al., 2015).

Looking at the relationship between coping strategies, stress, and mental well-being, current research has shown differing results. Problem-focused coping has been found to help reduce the experienced threat and its resulting stress (Rodríguez et al., 2014). Furthermore, this coping strategy shows to be adaptive with regards to mental well-being (Rabenu et al., 2016). Research has found it to be negatively associated with anxiety and depressive symptoms as well as loneliness and positively associated with well-being (Wang et al., 2022; Rodríguez et al., 2014).

Problem focused coping seems to be more effective in increasing one’s mental well-being than emotion-focused coping (Rabenu et al., 2016). It has been found that emotion-focused coping can have differing effects on mental well-being. Some studies have shown that this form of coping is linked to a lower mental well-being (Williams & McGillicuddy-De Lisi, 2000 as cited in Rodríguez et al., 2014; Fierro & Jiménez 2002 as cited in Rodríguez et al., 2014). A study conducted by Aldwin and Revenson (1987) found that emotion-focused coping strategies used for stress were not decreasing emotional stress but would rather increase it. However, seeking for social support, which is a coping strategy associated with emotion-focused coping, shows to have a positive correlation with mental well-being (Rodríguez et al., 2014). Moreover, research suggests that emotion-focused coping can be beneficial and helpful regulating one’s emotions and reducing stress when the situation is not changeable (Carver et al., 1989). It can further improve one’s mental well-being during a short time frame but can cause consequences over a longer period (Carver et al., 1989). Thus, emotion-focused coping strategies show an ambivalent result in its effect on stress and mental well-being, making it dependant on the individual situation.

Avoidance coping has shown to be effective when used as a short-term solution to reduce stress but is not effective in doing so in the long run (Balmores-Paulino, 2018). This coping style is often associated with a decrease in mental well-being and shows further association with “distress and/or depressive symptoms” (Balmores-Paulino, 2018). Thus, they can be described as maladaptive for mental well-being over time (Wang et al., 2022).

Regarding the relation between coping strategies, stress and mental well-being, a study with high functioning high-school students showed that coping strategies had a moderating effect on stress and mental well-being (Suldo et al., 2008). The research conducted by Suldo et al. (2008) showed that coping strategies that are categorized as adaptive helped students to deal better with the experienced stress resulting in a positive effect on their mental well-being. These coping strategies include the positive appraisal, keeping positive, but also seeking out social support. They further argue that emotion-focused coping strategies are correlated with psychopathology, meaning that their usage to cope with stress results in internalizing disorders (Suldo et al., 2008). Furthermore, Kumar et al. (2020, p. 207) found that proactive coping has a moderating effect on perceived stress and mental well-being. The study suggests that this style of coping positively correlates with most aspects of well-being. However, avoidance coping was found to be “correlated negatively and significantly with personal growth, purpose in life and self-acceptance dimensions” (Kumar et al., 2020, p. 207). Some studies, however, found that coping strategies are only relevant and affect results in an interplay with other factors (Taylor & Stanton, 2007). Therefore, the effect of coping strategies on stress and mental well-being is not entirely clear.

Given the inconclusive research outcomes concerning coping strategies on stress and mental well-being (Kumar et al., 2020; Suldo et al., 2008; Taylor & Stanton, 2007), it is essential to conduct further research on its effect, especially in university students. Furthermore, problem-focused coping strategies show that they can help to reduce stress while increasing mental well-being, while avoidant coping strategies show only a temporary reduction in stress and is associated with a decreased mental well-being (Rodríguez et al., 2014, Rabenu et al., 2016, Balmores-Paulino, 2018). To further validate these results and add onto existing literature from some years ago, more research into coping strategies and its relationship with stress and mental well-being needs to be conducted. Emotion-focused coping, however, is characterized by differences in its effectiveness on reducing stress and improving mental well-being, depending on the situation in which it is used. Therefore, it is necessary to conduct further research that can explain and contribute to the understanding of its ambiguity.

Thus, the goal of this research is to examine the research question: “*What is the relationship between coping strategies, stress, and mental well-being in university students?*”. To answer the research question, the following sub questions were formulated:

*Q1: To what extent do university students experience stress?*

Research has suggested that students experience a high level of stress (American College Health Association, 2017, as cited in Hubbard et al., 2018). It is therefore expected to see students having elevated stress levels that are above the average due to their daily stressors.

*Q2: What level of mental well-being do university students report?*

Based on the literature presented, students’ mental well-being is highly affected by their daily student life challenges (Hubbard et al., 2018). Thus, it is to be expected that university students show a lower level of mental well-being.

*Q3: To what extent is stress related to the level of mental well-being in university students?*

According to previous research, it is expected to see a negative relation between stress and mental well-being in university students (Li & Hasson, 2020; Barbayannis et al., 2022).

*Q4: To what extent does problem-focused coping moderate the relationship between stress and mental well-being in university students?*

From the literature that was reviewed, it is hypothesized that university students who use problem-focused coping experience less stress as well as an increased mental well-being in comparison to students who use different coping styles.

*Q5: To what extent does emotion-focused coping moderate the relationship between stress and mental well-being in university students?*

In line with previous research, this research question is expected to show ambivalent results. In this study, it is expected that emotion-focused coping is found to increase students stress level while decreasing their mental well-being. It is, however, also expected that the specific coping behaviour of seeking out social support is helping university students to experience less stress in correlation with an increased mental well-being in comparison with students who use different coping strategies that belong to emotion-focused coping.

*Q6: To what extent does avoidance coping moderate the relationship between stress and mental well-being in university students?*

Avoidance coping is expected to have a moderation effect that is correlated with an increased stress level as well as decreased level of mental well-being in university students.

## **Methods**

### **Design**

This study aimed to investigate the relationship between coping strategies, stress, and mental well-being in university students. Thus, a survey was designed in collaboration with four other students. All students investigated the variables of stress and mental well-being in addition to one further variable that differed from the others. Therefore, the survey was a combination of multiple different scales that were used by the researchers. The focus point of this research, however, was to explore the effect that coping strategies have on the relationship between stress and mental well-being. Thus, the gathered data of the survey was used to answer this research question. The complete survey that was formulated to gather data can be found in Appendix A.

### **Participants**

In total, 164 participants filled in the survey. After removing 21 participants who were under 18, and 41 participants who did not fill in the respective scales of the Mental Health Continuum Short Form (MHC-SF), Student Life Challenges or Brief COPE used for this study, 102 participants remained who all consented for their data to be handled. The mean age of the sample was around 22 years old. The nationalities of this sample consisted 70% of participants indicating that they were German, while the rest reported being Dutch or another nationality. Furthermore, most participants were female. Over 70% of participants were currently pursuing a bachelor's degree while nearly 20% were in their Masters. The sample consisted of various studies participants followed. The most common one was Psychology with 37 participants but other study programmes such as Communication Sciences were also named. Most participants started their study in the last three years. The most common university that participants named was the University of Twente with nearly 50%. A more concrete overview of the demographic information of the participants can be found in Table 1.



**Table 1***Demographic characteristics of participants*

Characteristics	<i>n</i>	%	<i>Mean</i>	<i>SD</i>
Age			21.85	1.92
Nationality				
Dutch	23	22.55		
German	72	70.59		
Other	7	6.86		
Gender				
Female	72	70.59		
Male	26	25.49		
Nonbinary	3	2.94		
Prefer not to say	1	0.98		
Study phase				
Bachelor year 1	22	21.57		
Bachelor year 2	19	18.63		
Bachelor year 3	35	34.31		
Master year 1	12	11.76		
Master year 2	6	5.88		
Other	8	7.84		
Study programme				
Psychology	37	36.27		
Other	65	63.73		
Starting year				
2023	29	28.43		
2022	18	17.65		
2021	27	26.47		
Other	28	27.45		
University				
University of Twente	48	47.06		
Other	54	52.94		

*Note.* SD = Standard Deviation

## **Materials**

All the different scales that were used by the researchers were combined into one coherent questionnaire. The survey included the following scales: Student Life Challenges, Mental Health Continuum Short Form, Approach to study inventory, Academic Self-Efficacy and Brief COPE. However, the used scales for this research only include the Student Life Challenges, Mental Health Continuum Short Form, and Brief Cope. In total participants needed to answer 89 items, whereas 64 items were relevant to this study in addition to the demographic questions. The complete survey including all scales and the informed consent can be found in Appendix A.

### ***Mental Health Continuum Short Form (MHC-SF)***

The Mental Health Continuum Short Form (MHC-SF) was used to measure the overall mental well-being of the university students. The MHC-SF is based on a longer form with 40 items. The short form includes 14 items in total of which three belong to emotional well-being (e.g. “interested in life”), six to psychological well-being (e.g. “that you liked most parts of your personality”) and five to social well-being (e.g. “that people are basically good”). Participants were able to indicate how often they felt a certain way during the past month on a six-point Likert scale. The range was from 0, meaning “never”, to 5, meaning “every day”. The overall mental well-being score was calculated by identifying the mean of all of the 14 items of the MHC-SF.

The MHC-SF was tested with an excellent level of internal consistency as well as excellent discriminant validity (Keyes, 2009). The test-retest reliability was .68 after three months and .65 over nine months (Lamers et al., 2011, as cited in Keyes, 2009). Furthermore, the structure of three different factors was confirmed in a variety of different samples (Keyes, 2009). In the current study, the total scale of the MHC-SF showed a Cronbach’s  $\alpha = .89$  which can be classified as an excellent internal consistency.

### ***Brief COPE***

The Brief COPE (Carver, 1997) was used to measure the different coping strategies students employ to deal with stress. This instrument, like the MHC-SF, is a short version of a longer format. The Brief COPE assumes that there are three main coping strategies, namely problem-focused, emotion-focused and avoidance coping. Overall, the Brief COPE includes 14 scales with two items each, totalling to 28 items. Four of those scales are used to measure different types of problem-focused coping, including active coping (e.g. “I’ve been concentrating my efforts on doing something about the situation I’m in”), use of informational support (e.g. “I’ve been getting help and advice from other people”), positive reframing (“I’ve

been trying to see it in a different light, to make it seem more positive”), and planning (e.g. “I’ve been trying to come up with a strategy about what to do”). Six scales are aiming to measure styles of emotion-focused coping, namely emotional support (e.g. “I’ve been getting emotional support from others”), venting (e.g. “I’ve been saying things to let my unpleasant feelings escape”), humour (e.g. “I’ve been making jokes about it”), acceptance (e.g. “I’ve been accepting the reality of the fact that it has happened”), religion (e.g. “I’ve been trying to find comfort in my religion or spiritual beliefs”), and self-blame (e.g. “I’ve been blaming myself for things that happened”). The last four scales are measuring the types of avoidance coping, including self-distraction (e.g. “I’ve been turning to work or other activities to take my mind off things”), denial (e.g. “I’ve been saying to myself “this isn’t real””) substance abuse (e.g. “I’ve been using alcohol or other drugs to make myself feel better”), and behavioural disengagement (e.g. “I’ve been giving up trying to deal with it”). Before participants started answering the questionnaire, they got asked to imagine a hardship that they have encountered in their life and think about how they have dealt with it. The response options were shown on a 4-point Likert scale ranging from 1, indicating “I haven’t been doing this at all”, to 4, indicating “I’ve been doing this a lot”. Therefore, the three types of coping got calculated by adding the items of the four scales of problem-focused coping together, the items of the six scales of emotional-focused coping and the items of the four scales of avoidance coping. Then those scores got divided by the number of items relevant for the type of coping, resulting in a mean item score per different coping strategy. A higher score in a specific coping category thus indicated a more frequent use of the respective strategies.

Earlier research has shown that the scales of the Brief COPE possess internal reliability (Carver, 1997). Furthermore, Poulus et al. (2020) found a good reliability within the three categories of coping. Problem-focused coping showed a Cronbach’s  $\alpha = .81$ , Cronbach’s  $\alpha = .75$  for emotion-focused coping and Cronbach’s  $\alpha = .68$  for avoidance coping. In the current study, problem-focused coping has a Cronbach’s  $\alpha = .76$ , Cronbach’s  $\alpha = .66$  for emotion-focused coping and Cronbach’s  $\alpha = .62$  for avoidance coping.

### ***Student Life Challenges (SLC)***

To measure the experienced stress in the university student, the Student Life Challenges (SLC) by Porru et al. (2022) was used. The SLC is focused on the life challenges that occur in students’ daily life that can be categorized as a stressor. The scale consists of six subscales that originate from the Higher Education Stress Inventory (Dahlin et al., 2005, as cited in Porru et al., 2022). The subscales include the stressors faculty shortcomings with seven items (e.g. “I feel that my teachers treat me with respect”), worries about future with

three items (e.g. “The long hours and responsibilities of my future career worry me”), unsupportive climate with five items (e.g. “There is a competitive attitude among students”), high workload with three items (e.g. “The literature is too difficult and extensive”), low commitment with two items (e.g. “I am proud of my future profession”), as well as financial concerns with two items (e.g. “As a student, my financial situation is worrying”) (Porru et al., 2022). Thus, the total amount of items is 22. The items are displayed on a 4-point Likert scale ranging from 1, meaning “totally disagree”, to 4, meaning “totally agree”. It was possible to calculate total subscale scores with the mean score of the corresponding items. A higher score on a subscale indicated a higher stress level in the specific life challenge.

In the research conducted by Porru et al. (2022), the subscales of faculty shortcomings, worries about the future, unsupportive climate and high workload showed a Cronbach’s  $\alpha$  ranging from .65 to .74. Thus, it indicates a good reliability. The subscales of low commitment showed a Spearman’s rank correlation coefficient of  $\rho = .60$ , while the subscale of financial concerns was  $\rho = .49$  (Porru et al., 2022). In the current study, the total scale showed an acceptable internal reliability with a Cronbach’s  $\alpha = .73$ . The subscales showed an  $\alpha$  of .73 for faculty shortcomings, .75 for worries about the future, .73 for unsupportive climate, .75 for high workload, .77 for low commitment and .71 for financial concerns.

### **Procedure**

To gather data, a 20-minute-long online survey was designed. The survey could be filled in by participants online. Firstly, the participants were educated on the purpose, procedure, and data handling of the survey as well as their participant rights and the demographics they need to fit. Furthermore, information was made available concerning the contact details of the researchers and their respective supervisors. Before starting the survey, participants were asked to indicate that they agree and consent to participate while also agreeing with the criteria that they are above 18, have read the information discussed above, that the information was clear, and that their participation is voluntary. With their agreement to these criteria, they were then asked to fill in demographic questions including their age, nationality, gender, phase of their study, which study they are following and where and when they started their study.

The survey was spread through social media with a corresponding link, and it was also uploaded to the SONA systems website of the University of Twente. If students filled in the survey on this website, they were able to gather SONA points. On social media, people were further asked to spread the link to other university students to ensure a higher number of

participants. The sampling technique that was used to gain participants can therefore be categorized as a snowballing technique. The sampling method is therefore a non-probability sampling method (Etikan, 2017).

The data was collected from the 20<sup>th</sup> of March 2024 till the 08<sup>th</sup> of April 2024. The study was approved by the ethics committee of the University of Twente with the request number 240232.

### **Data Analysis**

To answer the previously formulated questions, the gathered data was analysed with the programme R Studio (2024.04.2 + 764). Before conducting the necessary analyses, the data was cleaned by removing data that had no purpose in the analyses. Thus, categories such as starting and end date, duration or user language got filtered out and were removed from the dataset.

Regarding the SLC, it was deemed necessary to conduct further analysis to determine if the six subscales could be reduced to one coherent factor that would test stress. Thus, an exploratory factor analysis was conducted to investigate if underlying factors played a role and if this would indicate that further analyses could be conducted with a one-factor solution.

The dataset was then tested for normality. Therefore, the residuals were visualized in a histogram to examine their distribution. Furthermore, a Shapiro-Wilk test was performed to determine the respective p-values. To test for linearity of the variables, scatterplots were created. Moreover, the Pearson correlation was calculated to investigate the respective relationship between the different variables, especially the levels of stress and the dimensions of mental well-being in university students. This helped to answer Q3. Lastly, mean scores as well as the standard deviation scores of the various scales of the Brief COPE and SLC, in addition to the total score of the MHC-SF were calculated. This is in line with providing answers to Q1 and Q2.

Finally, a multiple regression analysis, more specifically a moderation analysis, was conducted to investigate the moderation effect coping strategies have on the relationship between stress and mental well-being in university students. To do so, the total score for mental well-being was determined as the dependent variable and the coping dimensions, stress as well as the interaction between stress and the coping dimensions were further categorised as predictors. To prevent multicollinearity the predictor variables were centred. This was done to answer Q4, Q5 and Q6.

## Results

### Exploratory Factor Analysis

An exploratory factor analysis was conducted in order to find out if the six subscales of the SLC could be put together into a one-factor solution, namely stress. Thus, a Kaiser-Meyer-Olkins test was performed, indicating an overall MSA of .77 which means that .77 of the proportion of variances can be explained by underlying factors. This value suggests an adequate sampling adequacy, making the dataset suitable for further factor analysis. Furthermore, Bartlett's test of sphericity showed a significant p-value ( $p < .01$ ). Thus, it suggested that there is correlation among the variables. This further justified the use of a factor analysis to explore a singular underlying factor of stress.

The exploratory factor analysis suggested a latent factor structure. The complete overview of specific factor loadings can be found in Table 2. One factor was found with the eigenvalue of 1.75. The other factors were found to have eigenvalues significantly below 1, making them unsuitable as independent factors. This finding was further backed up by the scree plot (see Appendix B). Applying the elbow criteria to the scree plot, only one factor showed to be relevant. Furthermore, the proportion variance explained by the factor was 29.2% (proportion variance = 0.292), which seems to be a substantial amount of variance in the overall dataset. Overall, the results of the exploratory factor analysis suggested that a one-factor solution was a good fit for the data and can be used in further analyses. However, the factor analysis also showed that the factor loading of the subscale "Financial concerns" was too low ( $< .40$ ). Therefore, this subscale was excluded from the one-factor solution and subsequently left out in all the following analyses. A singular factor was thus calculated by adding together the mean scores of the five remaining subscales of the SLC, namely faculty shortcomings, worries about the future, unsupportive climate, high workload, and low commitment. This factor found here will further be referred to as stress.

**Table 2***Results of the Exploratory Factor Analysis*

SLC subscale	Factor Loadings
Unsupportive Climate	.64
Low Commitment	.50
Faculty Shortcomings	.57
Worries about Future	.59
High Workload	.51
Financial Concerns	.39

**Spearman's Rank Correlations between Coping Types**

Spearman's Rank Correlation Coefficient was used to analyse association between each of the coping types of the Brief COPE. It was found that the correlation was weak but significant between avoidance coping and problem-focused coping ( $\rho = -.22, p = .0277$ ). Moreover, the correlation between emotion-focused coping and problem-focused coping ( $\rho = .47, p < .001$ ) showed to be moderate. Furthermore, there was no significant correlation found between avoidance coping and emotion-focused coping ( $\rho = .02, p = .8517$ ). Therefore, it can be said that the Brief COPE captures different dimensions with all its subscales.

**Testing Assumptions**

Firstly, the dataset got tested for normality with the help of histograms (see Appendix C). The Shapiro-Wilk test revealed that emotion-focused coping ( $p = .43$ ), problem-focused coping ( $p = .19$ ) as well as avoidance coping ( $p = .05$ ) follow a normal distribution. This was also applicable to the total score of the MHC ( $p = .07$ ). The results showed that stress did not follow a normal distribution ( $p = .04$ ). The histogram suggested at least some violations against the assumption of normality.

Secondly, the dataset was tested for linearity. In order to do so scatterplots were created to show the relationship between the predictor and dependent variable (see Appendix D). The scatterplot between stress and mental well-being showed no violation against the linearity assumption while all the others did. The pairings of emotion-focused coping and mental well-being, problem-focused coping and mental well-being as well as avoidance coping and mental well-being all suggested a violation of linearity. However, the further analyses accounted for the various violations against linearity and normality in the sample by

centring the variables of problem-focused, emotion-focused, and avoidance coping as well as stress and by bootstrapping the confidence interval.

### **Means, Standard Deviations and Pearson Correlations**

Firstly, it was tried to answer the first research question, “To what extent do university students experience stress?”. As the SLC is conducted on a 4-point Likert scale, the theoretical mean the results got compared to was 2.5. Looking at the result, the mean of the university students in this dataset scored lower on Stress than the theoretical mean (see Table 3). All means and standard deviations of the variables are depicted in Table 3.

Secondly, the research question “To what extent do university students experience levels of mental well-being?” was investigated by calculating the total mean score of the MHC-SF. Lamers et al. (2010) have found different means and standard deviations applicable for different sets of ages as well as gender. As this study concerned university students and all of them were between 18-29 years of age, the mean score and standard deviation from this age set from Lamers et al. (2010) was used as a comparison. When using 3.05 as a norm mean and 0.78 as a norm standard deviation, it could be seen that on average students in this sample showed to have a slightly lower mental well-being. The standard deviation is higher than the one indicated by Lamers et al. (2010).

Furthermore, the means and standard deviations of the Brief COPE were calculated. The Brief COPE was scored on a 4-point Likert scale resulting in a theoretical mean of 2.5. From the results it became clear that students scored slightly higher than this theoretical mean on both emotion-focused coping and problem-focused coping. Avoidance coping, however, has shown to be used significantly less than the other two coping styles and thus, also scored significantly below the theoretical mean. Students showed to not use this kind of coping style as often. In the analyses, avoidance coping showed to be lowly correlated with stress, mental well-being as well as the other coping strategies. Therefore, it was decided that its significance for further analyses could not be detected. Thus, avoidance coping did not get included in the regression analysis.

Lastly, the Pearson correlation was calculated to answer the third research question “To what extent is stress related to the levels of mental well-being?”. The Pearson correlation coefficient for all variables can be found in Table 3. The analysis revealed a significant moderate negative correlation between stress and mental well-being. Thus, it suggested that higher levels of stress are correlated with lower levels of mental well-being.



**Table 3***Means, Standard Deviations and Pearson Correlations of Variables*

<i>Variable</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Stress	2.26	.40	-				
2. Mental Well-being	2.80	.85	-.37**	-			
3. Problem-focused Coping	2.78	.53	.01	.23*	-		
4. Emotion-focused Coping	2.63	.43	.05	.11	.45**	-	
5. Avoidance Coping	1.99	.46	.09	-.16	-.16	.03	-

*Note.* \* $p < 0.05$ , \*\* $p < 0.01$

## Regression analysis

In order to perform the regression analysis, the variables of problem-focused and emotion-focused as well as stress were centred. Afterwards a regression analysis with the purpose to investigate the moderation effect the different coping styles have on the relationship between stress and mental well-being was conducted. This was in line with the fourth, fifth and sixth research question. The overall analysis with its outcome can be found in Table 4.

It became clear that the model is fit for the data as it was statistically significant and explained 38% of the variance in mental well-being outcomes. Furthermore, it showed that higher levels of stress were associated with lower levels of mental well-being. This relationship has been shown to be statistically significant with  $p < .001$ . The emotion-focused coping coefficients showed to be not statistically significantly related to mental well-being. Looking at the results of problem-focused coping, it showed to have a statistically significant positive relationship with mental well-being. Thus, higher levels of problem-focused coping were associated with higher levels of mental well-being.

Moreover, the interaction effect of stress and either problem-focused or emotion-focused coping showed no statistical significance in any case with  $p > .05$ . Therefore, there is no significant moderation found of emotion-focused coping or problem-focused coping on the relationship between stress and mental well-being.

**Table 4**

*Regression Analysis depicting Moderation Effect of Coping Styles in Relationship with Stress and Mental Well-Being*

Effect	Estimate	SE	t	p	95% CI	
					LL	UL
Intercept	2.80	.08	35.25	<.001	2.65	2.96
Stress	-.62	.20	-3.12	<.001	-1.02	-.23
Problem-focused Coping	.05	.02	2.15	.03	.00	.09
Emotion-focused Coping	.00	.02	0.09	.93	-.03	.06
Problem-focusedCoping:Stress	-.05	.06	-.85	.40	-.16	.06
Emotion-focusedCoping:Stress	.03	.04	.67	.50	-.06	.12

*Note.*  $R^2 = .38$ ,  $F = 3.35$ ,  $p < .01$ ; CI = bootstrapped Confidence Interval, *LL* = lower limit, *UL* = upper limit

## **Discussion**

### **Summary of Findings**

The current study aimed to investigate the role that different coping mechanisms had on the relationship between mental well-being and stress. Firstly, the research focused on assessing how much stress university students experienced. On average, it was found that they did experience a moderate amount of stress, however, this still showed to be under the theoretical mean that was established. Thus, students experience a variety of student life challenges but did not score significantly high. Secondly, the level of mental well-being of students was investigated. When comparing the outcomes of the current study with the established norm, it showed that students in this sample have a lower level of mental well-being. A higher standard deviation also indicated more fluctuations between students in their levels of mental well-being. Thirdly, the relationship between mental well-being and stress was investigated. The outcomes indicate that lower levels of mental well-being are correlated with higher levels of stress. Thus, a negative relationship between the two was observed. Lastly, the moderation effect of the different coping mechanisms on the relationship between mental well-being and stress was assessed. Earlier analyses suggested that students displayed a high use of problem-focused coping, as well as a moderately higher usage of emotion-focused coping. However, the outcomes also suggested that avoidance coping was used substantially less by the students while also not showing any correlations to the other variables, indicating that this coping style was insignificant. This led to the exclusion of this coping mechanism for the regression analysis. The analyses suggested that higher levels of stress are associated with lower levels of mental well-being. Furthermore, it indicated that there is a positive relationship between problem-focused coping and mental well-being. However, there was no statistically significant moderation effect found of emotion-focused or problem-focused coping on the relationship between stress and mental well-being.

### **Interpretation of Findings**

The findings of this research give a clear outline of the ways in which stress and different coping mechanisms are related to the mental well-being of university students. The slightly lowered levels of mental well-being in this sample are in line with the expectations that were formulated. It is further in line with what previous research has suggested. Studies have shown that students are a group that has an elevated risk of experiencing decreased mental well-being (American College Health Association, 2017, as cited in Hubbard et al., 2018). With challenges “such as making independent decisions about their lives and studies, adjusting to the academic demands of an ill-structured learning environment, and interacting

with a diverse range of new people” (Hernández-Torrano et al., 2020), students clearly need to adapt to many different things at the same time while also trying to keep track of their mental well-being. As explained earlier, numbers of students experiencing all kinds of mental health issues are rising (National College Health Assessment, 2017, as cited in Hubbard et al., 2018). A study in the Netherlands confirmed these results. It was found that students “score below average for life satisfaction and resilience and that this correlates with the risk of developing mental health issues” (RIVM & GGD GHOR Nederland, 2021). Moreover, majority of the students said that they experienced loneliness and feel pressured academically (RIVM & GGD GHOR Nederland, 2021). Thus, the findings of this study further validate the importance of keeping track of student’s mental well-being. In accordance with this, they highlight why it is important to provide students with interventions and programmes to maintain a healthy mental well-being.

In comparison, the levels of stress in this sample are more difficult to interpret as there is no norm established that this outcome can be compared to. However, with the theoretical mean, it was possible to identify the stress level of students as moderate but below the theoretical mean. Even though research has shown that nearly 90% of US students indicated that their education is their primary stressor (Barbayannis et al., 2022), other factors could have influenced this result in a more positive way. One of the main factors that could have caused the moderate level of stress instead of a higher level of stress is the usage of problem-focused coping. This study showed that problem-focused coping was used significantly more than the norm. Problem-focused coping uses a lot of active approaches to stress such as making use of active coping, use of informational support, positive reframing, and planning (Carver, 1989). Research has shown that this coping mechanism is correlated with decreased levels of stress (Davarniya et al., 2019). Furthermore, it might be that the environment established by the university is supportive and helpful. Universities that offer interventions and programmes to students to provide help but also teach how to cope with stress can help to decrease stress (Regehr et al., 2013). However, it is necessary to acknowledge that even though the level of stress was below average, students have a multitude of challenges in their daily lives. Therefore, attention needs to be drawn to the struggles of students.

As can be seen from the results, a negative relationship between mental well-being and stress was found. This was in line with the expectations established in the beginning. Earlier research also found similar results. Barbayannis et al. (2022) studied the relationship between mental well-being and academic stress in college students in the USA. They found similar results indicating that mental well-being and stress are negatively correlated with each

other. A study by Pascoe et al. (2019) measuring lowered mental well-being “using psychological, social, cognitive and physical components” further validated this finding. Others also found that stress is associated with being anxious as well as experiencing a decreased mental well-being (Robotham & Julian, 2006). These results highlight the importance to pay attention to student’s stress levels as these might influence their mental well-being. It is thus necessary to teach students how to efficiently and effectively cope with their stress to maintain a healthy mental well-being.

The current study has shown that there is a positive association between problem-focused coping and mental well-being. As discussed earlier this shows to be in line with earlier research indicating that proactive coping increased mental well-being (Suldo et al., 2008). The study by Rodríguez et al. (2014) highlights that problem-focused coping positively predicts mental well-being, especially psychological well-being. Furthermore, problem-focused coping was identified as one factor that protects an individual from experiencing symptoms in line with depression or anxiety (Lopes & Nihei, 2021). However, there was no moderation of problem-focused coping found on the relationship between stress and mental well-being. This goes against the expectations that were formulated based on earlier research. Suldo et al. (2008) found a moderation effect of adaptive coping strategies on stress and mental well-being in a sample of high achieving students. This is in line with the result of Kumar et al. (2020, p. 207) in an Indian sample. An explanation on why there was no moderation effect found in this sample could be that the definitions of coping vary a lot. For this study, the definition of the Brief COPE by Carver (1997) was used which classified problem-focused coping with four different subscales, namely active coping, use of informational support, positive reframing, and planning. Kumar et al. (2020), however, used the Proactive Coping Inventory (PCI) and found a moderation effect with the single scale of proactive coping on stress and mental well-being. Suldo et al. (2008) further used the Adolescent Coping Orientation for Problem Experiences which helps to identify 12 different coping patterns that relies on an individual exploratory factor analysis to identify the underlying factor structure for the sample. A difference on how these scales interpret problem-focused coping would, for example, be that the Brief COPE includes items such as “I’ve been getting help and advice from other people” or “I’ve been trying to get advice or help from other people about what to do” for measuring problem-focused coping (Carver, 1997). However, the PCI does not include any items on receiving help from others to measure its proactive coping but solely focuses on “autonomous goal setting with self-regulatory goal attainment cognitions and behavior” (Greenglass et al., 1999). Thus, the missing interaction

effect could be explained by the missing clear definition of what problem-focused coping entails. Alternatively, no moderation effect in this sample could also mean that the coping mechanism independently influences mental well-being rather than changing the impact of stress, seeing as this was significant for problem-focused coping.

Furthermore, there was no moderation effect found of emotion-focused coping on the relationship between stress and mental well-being as well as no correlation of it with mental well-being. This result also goes against the expectations that were formulated. Suldo et al. (2008) found that adaptive coping strategies helped students to deal with the experienced stress resulting in a positive effect on their mental well-being. Seeking out social support, which was categorized by the Brief COPE as a subscale of emotion-focused coping, was classified by Suldo et al. (2008) as an adaptive coping strategy. Barbayannis et al. (2022) also found social and emotional support to be an adaptive coping strategy that was effective in improving one's mental well-being. However, Suldo et al. (2008) also stated that emotion-focused coping's effectiveness was dependent on situational factors. Thus, earlier research showed to be inconclusive about the relationship between emotion-focused coping, stress and mental well-being. The coping strategy identified by both Barbayannis et al. (2022) and Suldo et al. (2008) that was supposed to moderate stress and mental well-being was seeking out social support. Social support is understood as a subcategory of emotion-focused coping in the Brief COPE. However, the concept of emotion-focused coping also includes venting, humour, acceptance, religion, and self-blame as subcategories next to emotional support. Looking at this, the concept of emotion-focused coping used in this study goes further than just including social support. Therefore, the overall concept shows to be a combination of influences from all its subcategories. Looking more closely at the identified subcategories, earlier research suggested that humour did not show to have a moderation effect on stress and mental well-being (Porterfield, 1987), while acceptance and venting were found to be adaptive in regulating stress and improving mental well-being (Cheng et al., 2022; Trần et al., 2023). Other research showed that self-blame can be classified as maladaptive (Nakano, 1991) and religion is dependent on how it is used (Rodríguez et al., 2014). Looking at this, emotion-focused coping as described by the Brief COPE has six subscales that have a different influence on stress and mental well-being. Though, social support shows to be moderating the relationship between stress and mental well-being, the other subscales show differing results regarding their relationship with stress and mental well-being. Because of this, other studies even tried to differentiate seeking out social support and emotion-focused coping as two distinct coping strategies (Boujut et al., 2012). The variability of the subscales

could therefore explain why this study did not find a moderation effect of emotion-focused coping on stress and mental well-being, while other studies found a moderation effect.

Lastly, the exclusion of avoidance coping due to its low usage of students suggests that this coping mechanism is not often used by this specific population. A study conducted by Cabras and Mondo (2018) also showed that avoidance coping was used significantly less by students than emotion-focused or problem-focused coping. They further found that male students employ avoidance coping more often than female students (Cabras & Mondo, 2018). As this sample mostly consists of female students, this would be in line with the results found in this study. Furthermore, avoidance coping got excluded due to no correlation between this type of coping with stress, mental well-being, emotion-focused coping, or problem-focused coping. Even though other studies have shown that avoidance coping is correlated with mental well-being and stress (Orines et al., 2023), Taylor and Stanton (2007) also argued that coping strategies may only have an effect or are relevant in an interplay with other factors. Thus, avoidance coping might be subjective to other factors that have not been investigated in this study. However, previous research has shown that avoidance coping is often associated with a decreased mental well-being as well as being maladaptive (Balmores-Paulino, 2018; Wang et al., 2022). The lack of avoidance coping in this study can thus be viewed as a positive finding. This finding could suggest that a lot of students are leaning more on the proactive approach to tackle stress.

### **Limitations**

Although the study shows to come with its strength in using reliable and validated scales as well as addressing the relevant and important topic of mental well-being in university students, it still comes with some limitations. Firstly, the data consists of mostly German and Dutch university students. The sample further can be classified as a convenience sample instead of a random sample from the total population that would have been needed to get a clear representation of it. Thus, it is difficult to generalize these findings onto a bigger population of students in general or a group of students of a specific study programme. The study did not investigate if different cultural contexts might influence stress and how someone copes with it. Therefore, the data might not represent the diversity of university students but rather focuses on German and Dutch students.

Additionally, the study is dependent on a singular point of time. Therefore, the data only shows a momentarily view of the situation but does not consider temporal fluctuations of mental well-being and stress. This limitation thus also limits the interference of causality between the variables and how these variables act over a given time.



Lastly, earlier research has shown to not have found a consensus on the definitions of the respective coping strategies and what they entail. Due to the multiple definitions that were brought forward, the interpretation of findings was difficult. Even though this study did not find a moderation effect of coping strategies on stress and mental well-being while earlier research did, it could be based on the different definitions that were used for problem-focused coping, emotion-focused coping, and avoidance coping in the studies.

### **Implications**

This research makes an important contribution to the understanding of the different relationships of coping strategies, stress, and mental well-being. The found levels of mental well-being indicate that there is a need for interventions that target the maintenance of a healthy mental well-being. Universities could further participate in stress reduction initiatives that aim to teach different stress management techniques. This would be in line with the found negative relationship between stress and mental well-being. Furthermore, this study also validates the need for support services regarding mental well-being. Universities should thus ensure that students get access to counselling, support groups and other mental well-being resources. As validated by this study, problem-focused coping plays a role in increasing mental well-being, making it necessary to advertise and teach those techniques to students. To do this, it is further relevant to make use of policies dedicating a set number of resources in the educational sector to implement these interventions, programmes, and workshops. It could also be relevant to specify the handling of mental well-being and stress in the respective curriculum. Furthermore, it is deemed important that awareness is spread in society about the challenges students face. This way students can access help more effectively and easily. It would further focus on establishing a social support system for struggling students.

### **Future Research and Practice**

To address the limitations of the current study, future research should attempt to view the relationship of coping strategies, stress, and mental well-being in a longitudinal study. This way fluctuations of the variables could be observed and given some context. Furthermore, it would help to understand the causal relationships and the long-term effects of stress and coping on mental well-being. Investigating these relationships with a cohort study, for example, could help gain insights that would further help to generalize the findings onto a bigger group of students of the same cultural background or study programme. With more insights in this area, it would also be possible to adapt curriculums and workshops of universities to provide a long-term solution in stress reduction that could help improve mental

well-being as well as how to efficiently use coping strategies to uphold said mental well-being.

Moreover, it is advisable to conduct research with a more diverse and bigger sample. This would mean including a broader geographical range which would lead to a more diverse set of different universities as well as cultural backgrounds. Furthermore, it is advised to not only use the SONA system with self-selection or social media to recruit participants. This way, it would be possible gain insights into cultural and educational differences that might influence stress and coping. Furthermore, it would enhance the generalizability of the obtained data. By having a more general overview of the states of mental well-being and stress, it would be easier to adapt policies in general and provide support where it is necessary.

Additionally, future research could consider incorporating objective measures into their study. Objective measures that could be used in this context could be for example measuring one's cortisol levels or one's heart rate. This way the results would not only depend on self-reported data, resulting in a more robust assessment of people's stress. With the obtained data, necessary workshops aiming specifically for stress reduction could be introduced to students.

Lastly, it is worth noting that the findings were difficult to interpret due to the inconsistency in definitions for the respective coping strategies. Research up until this point uses definitions for the coping strategies that include various subcategories and thus refer to different concepts overall. It is therefore important to try and find relevant definitions of the different coping strategies and identify the subcategories that belong to them. It might also be a solution to refer to coping strategies as maladaptive or adaptive instead of trying to find a common definition problem-focused, emotion-focused or avoidance coping. For future practice, this would help to increase the overall comparability while also increasing the understanding of what the specific coping strategies entail.

## **Conclusion**

This study aimed to investigate the relationship between stress, coping mechanisms, and mental well-being among university students. The findings revealed that while students experience moderate levels of stress, their mental well-being is lower than the established norms. This aligns with previous research indicating that university students are a vulnerable group facing various challenges that impact their mental health. The analyses showed a significant negative correlation between stress and mental well-being, highlighting the impact of stress on students' mental health. Furthermore, problem-focused coping was positively

associated with mental well-being, suggesting that proactive coping strategies can increase students' mental health. However, emotion-focused coping did not show a significant relationship, and avoidance coping was used less frequently by the students, indicating a preference for more active coping strategies.

Despite these insights, the study has limitations, including a relatively homogenous sample, cross-sectional design, reliance on self-reported measures, and no consistent definitions of the coping strategies. These factors limit the generalizability and causal interpretations of the findings. Future research should address these limitations by using longitudinal designs, larger and more diverse samples, and incorporating objective measures of stress and well-being. In conclusion, this study underscores the need for universities to recognize the stressors affecting students and to implement comprehensive support systems that promote effective coping strategies. By doing so, universities can help enhance students' mental well-being, ultimately contributing to their academic success and overall quality of life.

## References

- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology*, 53(2), 337–348. <https://doi.org/10.1037/0022-3514.53.2.337>
- Balmores-Paulino, R. S. (2018). Avoidance coping strategies. In *Encyclopedia of Personality and Individual Differences* (pp. 1–3). [https://doi.org/10.1007/978-3-319-28099-8\\_645-1](https://doi.org/10.1007/978-3-319-28099-8_645-1)
- Barbayannis, G., Bandari, M., Zheng, X., Baquerizo, H., Pecor, K. W., & Ming, X. (2022). Academic Stress and Mental Well-Being in College Students: Correlations, affected groups, and COVID-19. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.886344>
- Blum, S., Brow, M., & Silver, R. (2012). Coping. In *Encyclopedia of Human Behavior* (pp. 596–601). <https://doi.org/10.1016/b978-0-12-375000-6.00110-5>
- Boujut, E., Bruchon-Schweitzer, M., & Dombrowski, S. (2012). Coping among Students: Development and Validation of an Exploratory Measure. *Psychology*, 03(08), 562–568. <https://doi.org/10.4236/psych.2012.38084>
- Cabras, C., & Mondo, M. (2018). Coping strategies, optimism, and life satisfaction among first-year university students in Italy: gender and age differences. *Higher Education*, 75(4)(643–654). <http://www.jstor.org/stable/26449273>
- Carver, C. S. (1997). You want to measure coping but your protocol' too long: Consider the brief cope. *International Journal of Behavioral Medicine*, 4(1), 92–100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283. <https://doi.org/10.1037/0022-3514.56.2.267>
- Cheng, W. L. S., Young, P. M. C., & Luk, K. K. H. (2022). Moderating Role of Coping Style on the Relationship between Stress and Psychological Well-Being in Hong Kong Nursing Students. *International Journal of Environmental Research and Public Health*, 19(18), 11822. <https://doi.org/10.3390/ijerph191811822>
- Davarniya, R., Shakarami, M., & Zaharakar, K. (2019). Resilience, coping strategies, and social support: important predictors of students' vulnerability to stress. *Journal of Research & Health*, 9(1), 90–94. <https://doi.org/10.29252/jrh.9.1.90>
- Etikan, I. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6). <https://doi.org/10.15406/bbij.2017.05.00149>

- Greenglass, E., Schwarzer, R., Jakubiec, D., Fiksenbaum, L., Taubert, S., York University, & Freie Universität Berlin. (1999). The Proactive Coping Inventory (PCI): a multidimensional research instrument. In *Paper presented at the 20th International Conference of the Stress and Anxiety Research Society (STAR), Cracow, Poland*.  
<https://estherg.info.yorku.ca/files/2014/09/pci.pdf>
- Hernández-Torrano, D., Ibrayeva, L., Sparks, J., Lim, N., Clementi, A., Almukhambetova, A., Nurtayev, Y., & Muratkyzy, A. (2020). Mental Health and Well-Being of University Students: A Bibliometric Mapping of the Literature. *Frontiers in Psychology, 11*.  
<https://doi.org/10.3389/fpsyg.2020.01226>
- Hubbard, K., Reohr, P., Tolcher, L., & Downs, A. (2018). Stress, Mental Health Symptoms, and Help-Seeking in College students. *Psi Chi Journal of Psychological Research, 23*(4), 293–305. <https://doi.org/10.24839/2325-7342.jn23.4.293>
- Keyes, C. L. M. (2002). The mental health continuum: from languishing to flourishing in life. *Journal of Health and Social Behavior, 43*(2), 207. <https://doi.org/10.2307/3090197>
- Keyes, C. L. M., M. (2009). *Brief Description of the Mental Health Continuum Short Form (MHC-SF)*. <https://peplab.web.unc.edu/wp-content/uploads/sites/18901/2018/11/MHC-SFoverview.pdf>
- Kumar, S. K., Mandal, S. P., & Bharti, D. A. (2020). Perceived Stress and Psychological Wellbeing: The Moderating Role of Proactive Coping. *Journal of the Indian Academy of Applied Psychology, 46*(2), 200–209.
- Lamers, S., Westerhof, G. J., Bohlmeijer, E. T., Klooster, P. M. T., & Keyes, C. L. M. (2010). Evaluating the psychometric properties of the mental health Continuum-Short Form (MHC-SF). *Journal of Clinical Psychology, 67*(1), 99–110.  
<https://doi.org/10.1002/jclp.20741>
- Li, Z., & Hasson, F. (2020). Resilience, stress, and psychological well-being in nursing students: A systematic review. *Nurse Education Today, 90*, 104440.  
<https://doi.org/10.1016/j.nedt.2020.104440>
- Lopes, A. R., & Nihei, O. K. (2021). Depression, anxiety and stress symptoms in Brazilian university students during the COVID-19 pandemic: Predictors and association with life satisfaction, psychological well-being and coping strategies. *PloS One, 16*(10), e0258493. <https://doi.org/10.1371/journal.pone.0258493>
- Nakano, K. (1991). The role of coping strategies on psychological and physical well-being. *Japanese Psychological Research, 33*(4), 160–167.  
<https://doi.org/10.4992/psycholres1954.33.160>

- Orines, R., Dy, M. T. Q., Huen, K. H., Maligaya, K. N. B., Pangan, J. M. G., Paulino, N. D. C., & Racino, K. M. Y. (2023). Stress and avoidant coping: Predictors of quality of life among Filipino graduating students. *European Journal of Psychology and Educational Research*, 6(2), 77–83. <https://doi.org/10.12973/ejper.6.2.77>
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2019). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104–112. <https://doi.org/10.1080/02673843.2019.1596823>
- Porru, F., Schuring, M., Bültmann, U., Portoghese, I., Burdorf, A., & Robroek, S. J. W. (2022). Associations of university student life challenges with mental health and self-rated health: A longitudinal study with 6 months follow-up. *Journal of Affective Disorders*, 296, 250–257. <https://doi.org/10.1016/j.jad.2021.09.057>
- Porterfield, A. L. (1987). Does sense of humor moderate the impact of life stress on psychological and physical well-being? *Journal of Research in Personality*, 21(3), 306–317. [https://doi.org/10.1016/0092-6566\(87\)90013-4](https://doi.org/10.1016/0092-6566(87)90013-4)
- Poulus, D. R., Coulter, T. J., Trotter, M. G., & Polman, R. (2020). Stress and coping in esports and the influence of mental toughness. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.00628>
- Rabenu, E., Yaniv, E., & Elizur, D. (2016). The Relationship between Psychological Capital, Coping with Stress, Well-Being, and Performance. *Current Psychology*, 36(4), 875–887. <https://doi.org/10.1007/s12144-016-9477-4>
- Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders*, 148(1), 1–11. <https://doi.org/10.1016/j.jad.2012.11.026>
- RIVM & GGD GHOR Nederlands. (2021, December 9). *Concerns about mental health and substance use among students justified* | RIVM. <https://www.rivm.nl/en/news/concerns-about-mental-health-and-substance-use-among-students-justified>
- Robotham, D., & Julian, C. (2006). Stress and the higher education student: a critical review of the literature. *Journal of Further and Higher Education*, 30(2), 107–117. <https://doi.org/10.1080/03098770600617513>
- Rodríguez, T. M., Meléndez-Moral, J. C., Viguer-Segui, P., & Sales, A. (2014). Coping Strategies as Predictors of Well-Being in Youth Adult. *Social Indicators Research*, 122(2), 479–489. <https://doi.org/10.1007/s11205-014-0689-4>

- Smith, M. M., Saklofske, D. H., Keefer, K. V., & Tremblay, P. F. (2015). Coping Strategies and Psychological Outcomes: The Moderating Effects of Personal Resiliency. *The Journal of Psychology, 150*(3), 318–332.  
<https://doi.org/10.1080/00223980.2015.1036828>
- Suldo, S. M., Shaunessy, E., & Hardesty, R. B. (2008). Relationships among stress, coping, and mental health in high-achieving high school students. *Psychology in the Schools, 45*(4), 273–290. <https://doi.org/10.1002/pits.20300>
- Taylor, S. E., & Stanton, A. L. (2007). Coping resources, coping processes, and mental health. *Annual Review of Clinical Psychology, 3*(1), 377–401.  
<https://doi.org/10.1146/annurev.clinpsy.3.022806.091520>
- Trần, V., Szabó, Á., Ward, C., & Jose, P. E. (2023). To vent or not to vent? The impact of venting on psychological symptoms varies by levels of social support. *International Journal of Intercultural Relations, 92*, 101750.  
<https://doi.org/10.1016/j.ijintrel.2022.101750>
- Wang, H., Ng, T. K., & Siu, O. L. (2022). How does psychological capital lead to better well-being for students? The roles of family support and problem-focused coping. *Current Psychology, 42*(26), 22392–22403. <https://doi.org/10.1007/s12144-022-03339-w>
- WHO. (n.d.). *Mental health*. <https://www.who.int/data/gho/data/themes/theme-details/GHO/mental-health>
- WHO. (2023, February 21). *Stress*. Retrieved February 22, 2024, from <https://www.who.int/news-room/questions-and-answers/item/stress>

## Appendix A

### *Complete Survey*

#### Purpose

This study aims to investigate the relation of different variables, including gender, coping strategies, self-efficacy, and study style, to perceived stress and mental well-being.

#### Procedure

The study is being conducted as part of a Bachelor thesis. By participating in this survey you will complete several scientific surveys related to your perceived stress, mental well-being, used coping strategies, self-efficacy and study style. The survey consists of 5 sections: Perceived Stress Scale (PSS), Brief COPE, The General Academic Self-Efficacy Scale (GASE), Mental Health Continuum Short Form (MHC-SF) and The Approach to Study Inventory (ASI).

During this survey, you will be asked to fill out questions in regard to the mentioned scales.

#### Data Handling

All your data is anonymized to ensure confidentiality and can thus not be traced back to you. The data will not be shared with other parties than the researcher and their supervisor and will be deleted after five years (2029).



## Contacts

If there are questions or concerns regarding this survey, you can contact the following people:

First supervisor: Erik Taal (e.taal@utwente.nl)

Second supervisor: Martha Kreuzberg  
(m.s.kreuzberg@utwente.nl)

Cara Meijer (c.meijer-1@student.utwente.nl)

Jasmin Giordani (j.c.giordani@student.utwente.nl)

Lynn Heuken (l.p.heuken@student.utwente.nl)

Rebecca Fischer (r.m.fischer@student.utwente.nl)

## Participant Rights

The participation in this study is completely voluntarily. You can withdraw from the study at any given time without giving a reason.

## Participant Demographics

For this study we are looking for people who are 18 or above, studying at a university in the Netherlands or Germany, are either a Bachelor or Master student and are fluent in English.

Clicking "I agree and consent to participate in this study" means:

- you are 18 years of age or older

- you have carefully and thoroughly read this page
- you have been informed about the nature and method of this research in a manner that is clear to you, and
- you voluntarily agree to participate in this study

- I agree and consent to participate in this study
- I do not agree and consent to participate in this study

Please indicate your age.

Please indicate your nationality.

- Dutch
- German
- other, namely

Please indicate your gender.

- Male
- Female
- Non-binary / third gender

Prefer not to say

In which phase of your study are you right now?

- Bachelor year 1
- Bachelor year 2
- Bachelor year 3
- Master year 1
- Master year 2
- Other

Which study are you doing?

In what year did you start your study?

At which university do you study?

## Mental Well-being

Please answer the following questions about how you have been feeling during the past month. Place a check mark in the box that best represents how often you have experienced or felt the following:

During the past month, how often did you feel ...

	NEVER	ONCE OR TWICE	ABOUT ONCE A WEEK	2 OR 3 TIMES A WEEK	ALMOST EVERY DAY	EVERY DAY
happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
interested in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
satisfied with life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that you had something important to contribute to society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that you belonged to a community (like a social group, your school, or your neighborhood)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that our society is a good place, or is becoming a better place, for all people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	NEVER	ONCE OR TWICE	ABOUT ONCE A WEEK	2 OR 3 TIMES A WEEK	ALMOST EVERY DAY	EVERY DAY
that people are basically good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that the way our society works made sense to you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that you liked most parts of your personality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
good at managing the responsibilities of your daily life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that you had warm and trusting relationships with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that you had experiences that challenged you to grow and become a better person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
confident to think or express your own ideas and opinions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
that your life has a sense of direction or meaning to it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Approach to study inventory

Place a check mark in the box that best represents to

what extent you agree with the following:

	Agree	Somewhat agree	Unsure	Somewhat disagree	Disagree
I usually set out to understand for myself the meaning of what we have to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm reading an article or book, I try to find out for myself exactly what the author means.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am reading I stop from time to time to reflect on what I am trying to learn from it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before tackling a problem or assignment, I first try to work out what lies behind it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to relate ideas I come across to those in other topics or other courses whenever possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm working on a new topic, I try to see in my own mind how all the ideas fit together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ideas in course books or articles often set me off on long chains of thought of my own.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Agree	Somewhat agree	Unsure	Somewhat disagree	Disagree
I like to play around with ideas of my own even if they don't get me very far.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I look at the evidence carefully and try to reach my own conclusion about what I'm studying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often I find myself questioning things I hear in lectures or read in books.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I read, I examine the details carefully to see how they fit in with what's being said.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to be able to follow the argument, or to see the reason behind things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regularly I find myself thinking about ideas from lectures when I'm doing other things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find that studying academic topics can be quite exciting at times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of the ideas I come across on the course I find really gripping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Agree	Somewhat agree	Unsure	Somewhat disagree	Disagree
I sometimes get 'hooked' on academic topics and feel I would like to keep on studying them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I go over the work I've done carefully to check the reasoning and that it makes sense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think about what I want to get out of this course to keep my studying well focused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before starting work on an assignment or exam question, I think first how best to tackle it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have finished a piece of work, I check it through to see if it really meets the requirements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## **Academic Self-efficacy**

Place a check mark in the box that best represents to what extent you agree with the following statements regarding your study:



	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I generally manage to solve difficult academic problems if I try hard enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I can stick to my aims and accomplish my goals in my field of study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will remain calm in my exam because I know I will have the knowledge to solve the problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I can pass the exam if I put in enough work during the semester.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The motto 'if other people can, I can too' applies to me when it comes to my field of study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## **Brief COPE**

Take a moment to think about a hardship you have encountered in your life and how you have dealt with it. Place a check mark in the box that best represents how you have experienced or done the following:

	I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
I've been turning to work or other activities to take my mind off things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been concentrating my efforts on doing something about the situation I'm in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been saying to myself "this isn't real".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been using alcohol or other drugs to make myself feel better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been getting emotional support from others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been giving up trying to deal with it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been taking action to try to make the situation better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been refusing to believe that it has happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been saying things to let my unpleasant feelings escape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been getting help and advice from other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
I've been using alcohol or other drugs to help me get through it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to see it in a different light, to make it seem more positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been criticizing myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to come up with a strategy about what to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been getting comfort and understanding from someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been giving up the attempt to cope.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been looking for something good in what is happening.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been making jokes about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
I've been accepting the reality of the fact that it has happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been expressing my negative feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to find comfort in my religion or spiritual beliefs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to get advice or help from other people about what to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been learning to live with it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been thinking hard about what steps to take.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been blaming myself for things that happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been praying or meditating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been making fun of the situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Student Life Challenges

The following statements refer to challenges that you might encounter in your academic life. Place a check mark in the box that best represents to what extent you agree with the following:

	Totally disagree	Somewhat disagree	Somewhat agree	Totally agree
I feel that my teachers treat me with respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The teachers often fail to clarify the aims of the activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The study stimulates my personal development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a student you are often expected to participate in situations where your role and function is unclear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to influence the studies or curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is too much focus on passive learning of facts and too little on active seeking of knowledge and time for reflection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the training is preparing me well for my future profession.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

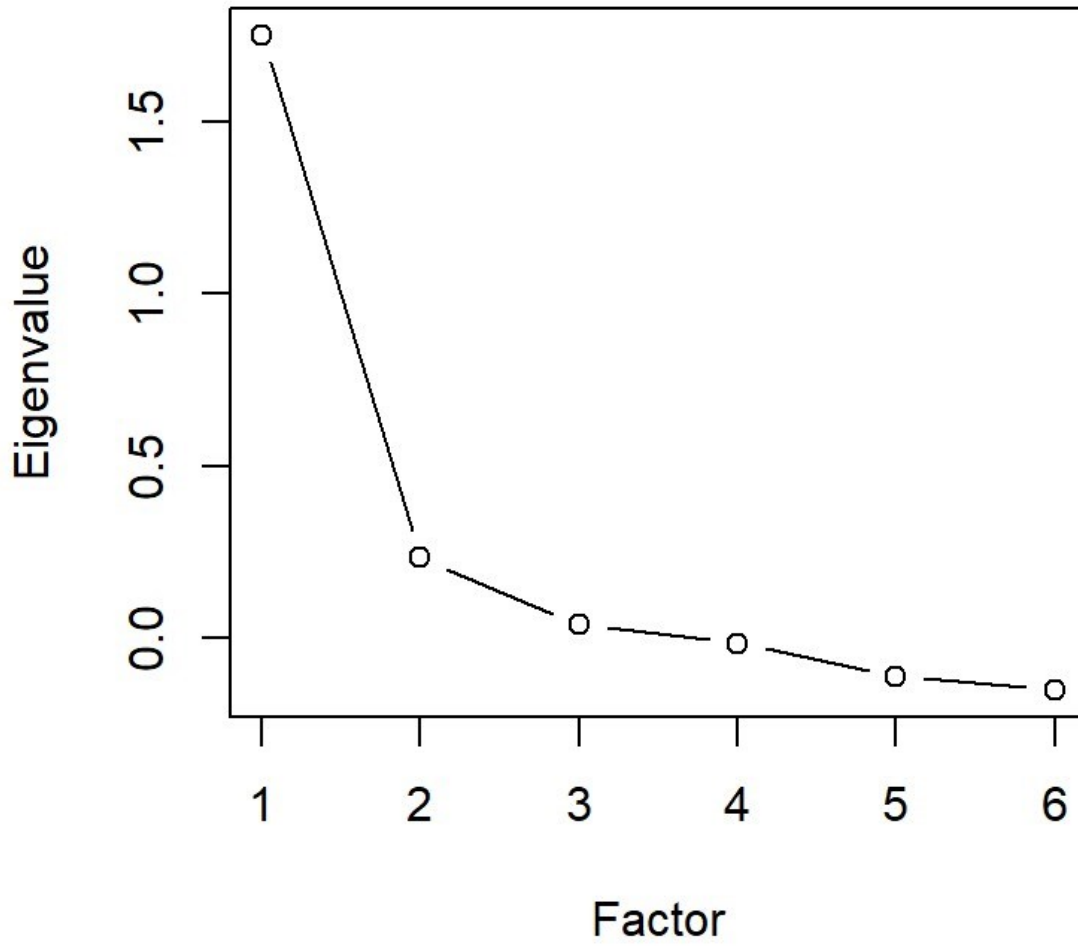
	Totally disagree	Somewhat disagree	Somewhat agree	Totally agree
I am worried that I will not acquire all the knowledge needed for my future profession.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The long hours and responsibilities of my future career worry me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The insight I have had into my future profession has made me worried about the stressful workload.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studying has created a climate of anonymity and isolation among the students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The professional role presented in our course conflicts with my moral viewpoint.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a competitive attitude among students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the studies have played a role in creating a cold and impersonal attitude among students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It seems to me to be treated worse on the basis of my sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Totally disagree	Somewhat disagree	Somewhat agree	Totally agree
My study controls my life and I don't have a lot of time for other activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The literature is too difficult and extensive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The pace of study is too high.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my choice of career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am proud of my future profession.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a student, my financial situation is worrying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am worried about my future financial situation and my ability to pay off my student loans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix B

*Scree Plot of Exploratory Factor Analysis*

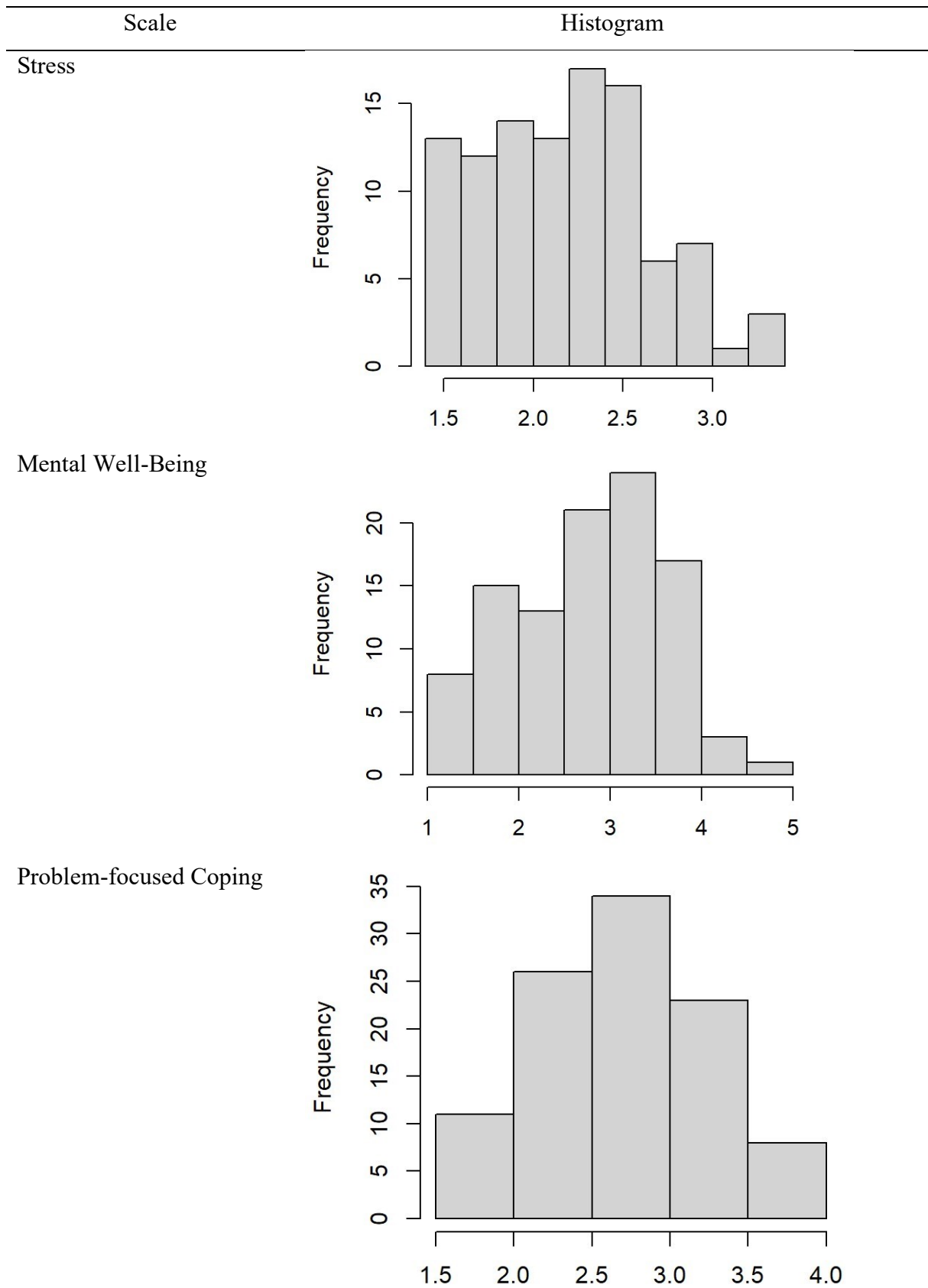
### Scree Plot



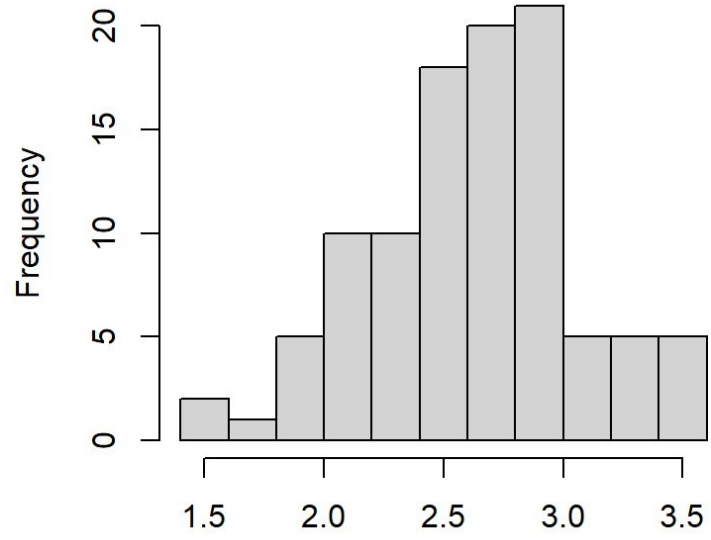


## Appendix C

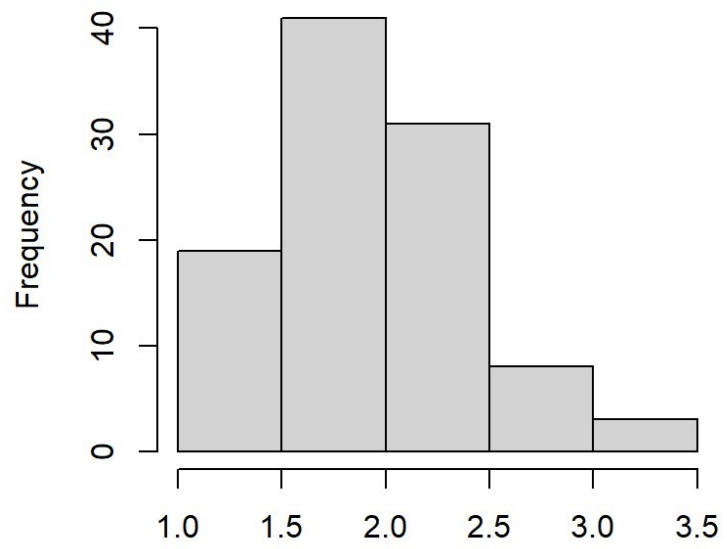
Table: Histograms of Mean Scores of Variables



Emotion-focused Coping

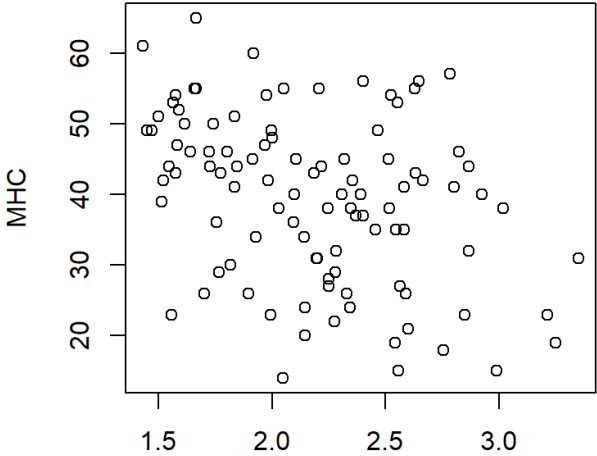
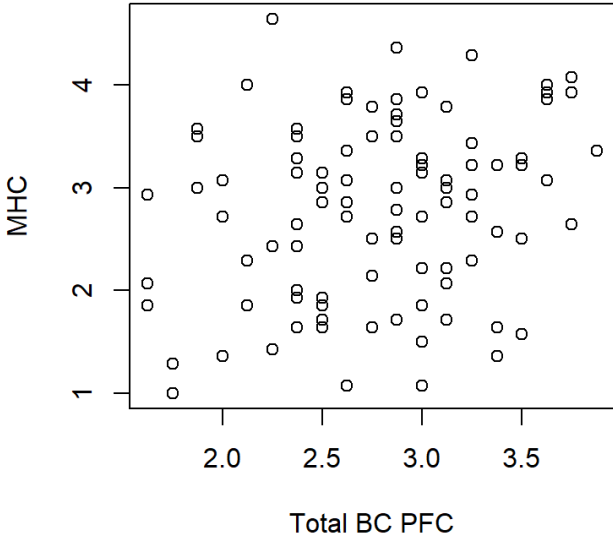


Avoidance Coping



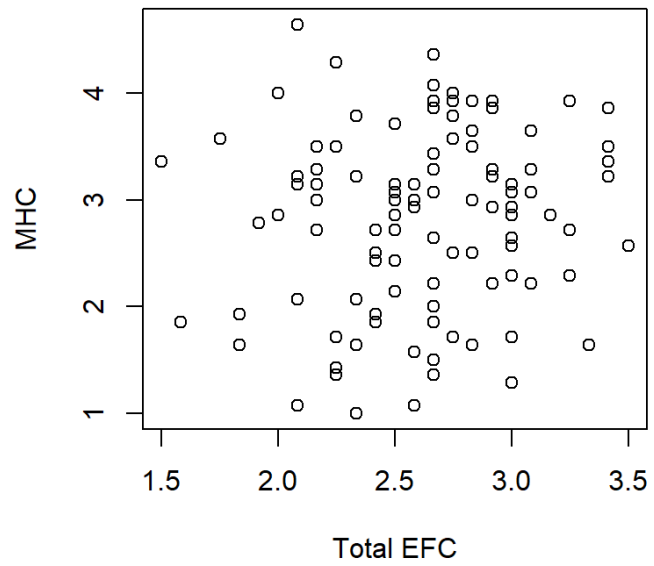
## Appendix D

Table: Scatterplots of Predicting and Dependent Variables

Relation	Scatterplot
Stress:MentalWell-Being	 <p>A scatterplot showing the relationship between Stress (x-axis, ranging from 1.5 to 3.0) and Mental Well-Being (y-axis, ranging from 20 to 60). The data points are widely scattered, indicating a weak or no correlation between the two variables.</p>
Problem-FocusedCoping:MentalWell-Being	<p><b>Scatterplot of BC PFC and MHC</b></p>  <p>A scatterplot showing the relationship between Total BC PFC (x-axis, ranging from 2.0 to 3.5) and MHC (y-axis, ranging from 1 to 4). The data points are widely scattered, indicating a weak or no correlation between the two variables.</p>

Emotion-  
FocusedCoping:MentalWell-  
Being

**Scatterplot of BC EFC vs. MHC**



AvoidanceCoping:MentalWell-  
Being

**Scatterplot of BC AC vs. MHC**

