

Natalie PETERS¹ (Dresden)

Bringing stress management into students' curricula: Effectiveness of a holistic stress management intervention

Abstract

By integrating health promoting interventions into higher education, students learn to better cope with high demands and difficult situations and stressors. As these interventions often include singular aspects of stress management and are usually not part of students' curricula, the effectiveness of a holistic stress management intervention (SMI) was tested in two studies at a large German university. Part of the second study was the implementation of the SMI into a seminar. Results showed that the SMI was effective in lowering perceived stress and increasing contentment with life, well-being, and knowledge about stress and coping compared to the control group. Hence, the implementation of this SMI can contribute in promoting students' health and could be the basis for implementing holistic SMI in students' curricula.

Keywords

stress, stress management intervention, students in higher education, holistic stress management, student well-being

¹ email: natalie.peters@tu-dresden.de



1 Introduction

The world we live in changes rapidly: social, political, and economic developments play a huge part. Individuals constantly need to adapt to this environment. Issues like globalization, international competition, technological and demographical shifts have a strong influence on our daily life. Not always being able to keep a balance between resources and demands of the outside world takes its toll on psychological and physiological well-being in the long haul. This negative development has been confirmed by various research studies (e.g., LEKA, JAIN & WORLD HEALTH ORGANIZATION, 2010; LOHMANN-HAISLAH, 2012) and has also been observed in higher education all over the world (AUERBACH et al., 2016; GUSY, LESENER & WOLTER, 2018). Regarding these studies, students already experience varying health problems, e.g., anxiety, concentration disorders, insomnia, and general symptoms for depression. Reasons for that are manifold and can consist of high workload and performance standards, increasing pressure through the upcoming job market situation, the need to gain job experience or finance a living, low self-management and/or time-management skills, and other social or personal challenges.

This development has not gone unnoticed. University management has since tried to develop strategies in order to counteract this negative trend. In many cases, health-promoting interventions have been implemented. Often these are stress management interventions (SMI), which can be executed through professional trainings. Explicit contents and methods may vary, but they all have the same goal: to identify and strengthen students' resources and coping strategies for coping with high demands and stressors without facing or enduring health issues.

2 Towards a holistic stress management intervention for students in higher education

2.1 Definition of stress

The term “stress” nowadays is used ubiquitously, usually to describe a personal reaction to a difficult situation or the situation itself. In daily life, people tend to use the term “stress” in a negative context, e.g., to appraise wearing situations in their life, although short-term stress can also have a positive effect on the human body and mind (SELYE, 1956). This paper will focus on the negative aspects of stress, which can cause psychological and physiological health problems if experienced long-term. Perceived stress is a very individual concept and usually includes the aspect of subjectivity. Therefore, the definition of “stress” used in this paper will be the following one: “Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her well-being and in which the demands tax or exceed available coping resources” (LAZARUS & FOLKMAN, 1986, p. 63). The underlying theories and models of the applied SMI in the two studies are the transactional model of stress and coping (LAZARUS 1966; LAZARUS & FOLKMAN, 1984), and the job demands-resources model (DEMEROUTI, BAKKER, NACHREINER & SCHAUFELI, 2001), respectively the study demands-resources model by GUSY, WÖRFEL and LOHMANN (2016).

2.2 Stress management interventions for students in higher education

Recent studies show that the perceived stress levels among students in higher education are high, and symptoms of depression and general health issues prevail (AUERBACH et al., 2016; GUSY, LESENER & WOLTER, 2018). In order to approach health promotion and in particular stress management, universities have started to establish interventions for students, which have shown to be effective (e.g., CONLEY, DURLAK & KIRSCH, 2015; REGEHR, GLANCY & PITTS,

2012). But these are rarely used consistently or as a permanent element in the universities' curricula. Furthermore, many of the previous interventions focus only on a few aspects of stress management, e.g., practicing yoga, mindfulness, or meditation, promoting time-management skills, teaching relaxation exercises, or increasing knowledge about stress and coping. So far, cognitive-behavioral approaches have shown to be the most effective SMI in general (e.g., RICHARDSON & ROTHSTEIN, 2008).

3 Present studies

This paper presents two studies that applied an already existing SMI, which takes on stress management in a more holistic way as compared to other singular stress management approaches. Its foundation is based on cognitive-behavioral methods. The applied intervention has been shown to be effective in various other contexts (e.g., BUHMANN, JUNGnickel & LEHMANN, 2018; KALUZA, 2000; KALUZA, 1999), and hence is likely to be effective in the university context as well.

The studies examined the effectiveness of a holistic SMI for students as part of a training program in a student association at said university (study 1), while focusing on perceived stress levels (variable 1) and contentment with life (variable 2). Measurements were conducted at three points in time: before and after the intervention and two weeks after, compared to a waitlist control group. The second study was conducted to validate the results and overcome potential shortcomings by replicating the general design. Sample size, time frame of the intervention, and the instrument of study 1 were modified, along with elongating the time frame for the third measuring point (six weeks after the intervention instead of two weeks). It focused on perceived stress levels (variable 1), well-being (variable 2), and knowledge about stress and coping (variable 3). Adding to that, the study was conducted by implementing a pilot seminar about stress management and corporate health management at the Chair of Business Education and Management Training, which included the SMI. Therefore, stress management was integrated into the students' curricula. The study design of both studies can be seen in Figure 1.

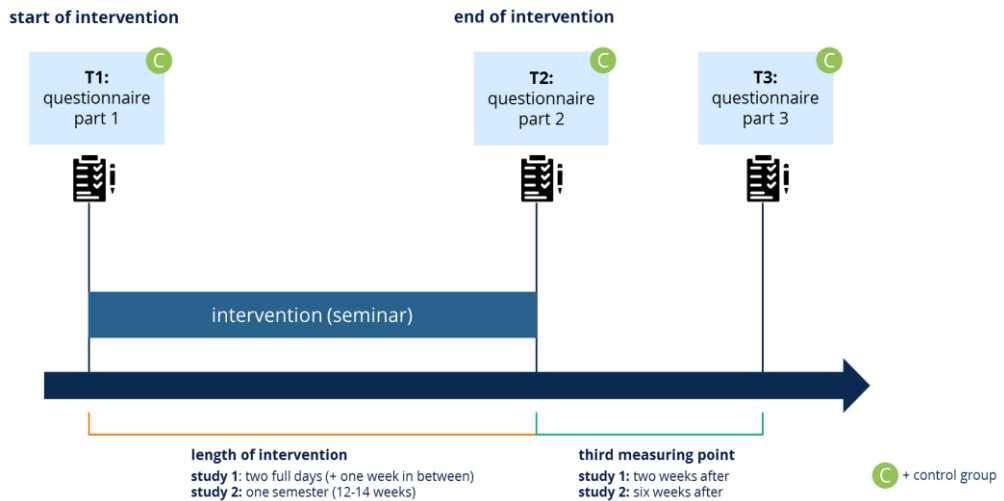


Figure 1: Study design

3.1 Research question and hypothesis

The overall research question of the current studies focused on the effectiveness of this holistic SMI in the university context. The hypotheses for both studies suggest that the SMI will have an influence on perceived stress and contentment with life (study 1) or perceived stress, well-being, and knowledge about stress and coping (study 2) of the participating students. It is therefore anticipated that:

- a) perceived stress will decrease
- b) contentment with life/well-being will increase
- c) knowledge about stress and coping will increase

significantly over time in the intervention group, compared to the control group.

3.2 The intervention

The intervention applied in the two studies is a well-known stress management program in Germany, implemented by a German health psychology professor and psychotherapist. It has been well tested in the medical field and workplace and also with unspecific target groups (e.g., BUHMANN, JUNGNICHEL & LEHMANN, 2018; KALUZA, 2000; KALUZA, 1999). The intervention can therefore be used as an effective way to restore and strengthen resources and coping strategies. This way, participating students might be able to better balance multiple demands in their university context as well as in their home (and work) environment without facing or enduring health issues over the long haul.

The program integrates instrumental, mental, palliative, and regenerative stress management knowledge and techniques into one holistic SMI. It is meant to support the participants not only in dealing with possible stressors, but in mitigating personal stress enhancers and stress reactions. It connects both appraisals and the potential stress reaction of the transactional stress model (LAZARUS, 1966; LAZARUS & FOLKMAN, 1984). Its foundation includes six basic modules and several optional ones, while the applied program in the current studies can be seen in Figure 2.

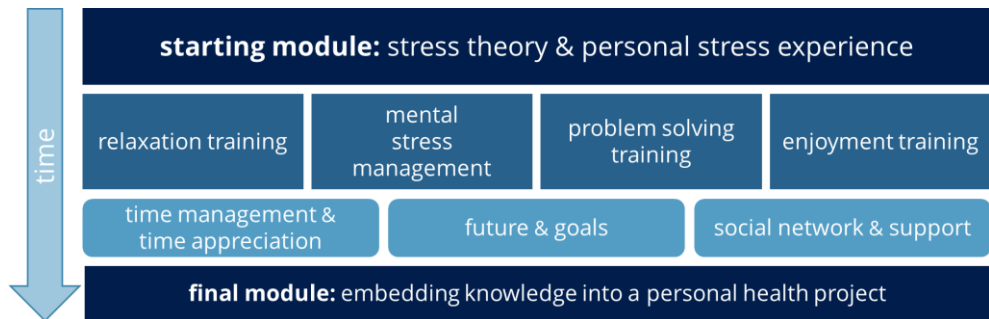


Figure 2: Structure and contents of the SMI

4 Method

4.1 Study 1

4.1.1 Participants and Procedure

The implementation of the intervention during the first study was part of a new training design, following a needs-analysis at the PAUL Consultants association, a student consultancy. Sixteen students participated in the study and were non-randomly assigned to either the experimental group or the control group. Contents, strategies, and methods were adapted and refined to the target group of students in higher education and are based on Kaluza's SMI (KALUZA, 2015). The applied cognitive-behavioral approaches have shown to be most effective in interventions (e.g., RICHARDSON & ROTHSTEIN, 2008). As the design also bases its effects on group (psycho-) therapeutic methods, a smaller group size is preferable for the intervention. The intervention itself was planned for two full training days, interrupted by one week for practicing purposes.

4.1.2 Measures and Analysis

In the first study, the effectiveness of the SMI was evaluated by measuring the sense of perceived stress (COHEN, KAMARCK & MERMELSTEIN, 1983) and contentment with life (BRÄHLER, MÜHLAN, ALBANI & SCHMIDT, 2007). The former has been used extensively for measuring perception of stress, and its psychometric properties are well-reported on. The latter (EUROHIS-QOL) captures general and cross-functional quality of life and has shown good reliability and validity in a cross-cultural field study (SCHMIDT, MÜHLAN & POWER, 2006).

Students completed the full questionnaire by rating items on a 5-point Likert scale at three points in time: directly before the intervention (T1), directly after (T2), and two weeks after the intervention (T3). The questionnaire also included items on satisfaction with the intervention. The control group answered the same questionnaire, excluding satisfaction.

4.2 Study 2

4.2.1 Participants and Procedure

In the second study, the former SMI was extended by implementing a pilot seminar on stress management and corporate health management at the Chair of Business Education and Management Training, which included the intervention. Strategies and methods of the SMI did not change. The sample size consisted of 25 students who took part for a full semester (13 weeks). The seminar itself took place once a week. The control group was formed by asking various master's students in the Faculty of Business and Economics if they were willing to support the research. A total of 13 students took part.

4.1.2 Measures and Analysis

The differences in measures consisted of changes in the items of the questionnaire, a modified time frame of the measurement points, and a larger sample size. Regarding the questionnaire, demographic items were adapted to the target group and a few items were added (e.g., prospective graduation and prior engagement with the subjects of stress and coping). Then, a new subgroup was added with seven items that contained questions about knowledge concerning stress and coping (referred to as the variable "knowledge about stress and coping"). They were rated with a scoring system ranging from 0 to a total of 20 points for complete and correctly answered questions. Contents of these questions were the subjects of the seminar and the implemented SMI. The items were a mixture of multiple choice and open questions.

The variable "contentment with life" was replaced by the variable "well-being." As some items of the EUROHIS-QOL covered aspects that can hardly be influenced by an SMI (e.g., money, housing), a scale measuring mental well-being is more suitable. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was chosen, as it has been validated in various populations and aims to capture a wide conception of well-being (TENNANT et al., 2007). The modified time frame of the measurement points included a later rating of the items at the third point of time

(T3), which was six weeks after the SMI (compared to two weeks in study 1). The control group answered the same questionnaire, excluding satisfaction. Data of both studies were analyzed by a two-way analysis of variance (ANOVA) with repeated measurement.

5 Results

5.1 Descriptive Analysis

5.1.1 Study 1

The descriptive data of the samples on socio-demographic variables, progress of studies, existing job experience, and duration of the membership at the students' association in years are presented in Table 1.

Table 1: Study 1 – Sample description of both groups

Variable	Intervention group (<i>n</i> = 8)	Control group (<i>n</i> = 8)	Total (<i>n</i> = 16)
Mean age <i>M</i> (<i>SD</i>)	21.38 (1.99)	22.25 (1.49)	21.81 (1.76)
Number of completed semesters <i>M</i> (<i>SD</i>)	2.5 (1.41)	6.75 (2.49)	4.63 (2.94)
Years of membership at student association <i>M</i> (<i>SD</i>)	.20 (.23)	1.84 (1.13)	1.02 (1.16)
Gender distribution	4 male/4 female	4 male/4 female	8 male/8 female
Job experience through intern- ships	<i>n</i> = 3	<i>n</i> = 5	<i>n</i> = 8
Job experience through participa- tion in projects	<i>n</i> = 2	<i>n</i> = 6	<i>n</i> = 8

5.1.2 Study 2

The descriptive data of the samples on socio-demographic variables, progress of studies, existing job experience (e.g., through a part-time job next to university), and prior engagement with the subjects of stress and coping (e.g., having taken part in workshops, having read articles, or having written a thesis on stress and coping) are presented in Table 2.

Table 2: Study 2 – Sample description of both groups

Variable	Intervention group (<i>n</i> = 25)	Control group (<i>n</i> = 13)	Total (<i>n</i> = 38)
Mean age <i>M</i> (<i>SD</i>)	25.72 (2.65)	24.73 (2.19)	25.42 (2.53)
Number of completed semesters of master's degree <i>M</i> (<i>SD</i>)	2.67 (1.20)	3.18 (1.40)	4.63 (2.94)
Gender distribution	10 male/15 female	6 male/5 female	16 male/20 female
Job experience	<i>n</i> = 18	<i>n</i> = 6	<i>n</i> = 24
Prior engagement with the subjects of stress and coping	<i>n</i> = 5	<i>n</i> = 3	<i>n</i> = 8

5.2 Preliminary Analysis for ANOVA

The evaluation was based on a two-way ANOVA with repeated measurements for both studies. The data were first examined for normal distribution and possible outliers by means of an exploratory data analysis.

In total, four slight outliers were found (one in study 1, three in study 2). These data were, however, included in the further calculations, since there were no measurement errors and no further slight or extreme outliers were present. According to the Shapiro-Wilk test, a violation of normal distribution was found for variable 2 (study 1) and variable 1 (study 2). Since they can probably be explained by the slight outliers and the repeated measures ANOVA is considered relatively robust to

violations of the normal distribution assumption, the data were included in further calculations. The dependency of the measurements as a further prerequisite for a repeated measures ANOVA is given, since the measurements were always performed on the same persons. The dependent variables are interval-scaled and the intermediate subject factor of the groups is nominally scaled. The results of the Mauchly test for both studies are presented in the following results section.

5.3 Results of the Two-Way ANOVA with Repeated Measurement

5.3.1 Study 1

The Mauchly test did not prove to be significant for variable 1 (“perceived stress”) in the comparison of both groups ($\chi^2 = 1.186$, $df = 2$, $p = .553$). Thus, there is no violation of sphericity. A repeated measures ANOVA determined that mean perceived stress levels show a statistically significant difference between measurements ($F(2,24) = 6.937$, $p = .004$, partial $\eta^2 = .366$). There is a statistically significant interaction effect of time and group, which is shown in Figure 3 and Table 3. The effect size $f = .95$ shows a strong effect (COHEN, 1992). For variable 2 (“contentment with life”), the Mauchly test did not prove to be significant in the comparison of both groups ($\chi^2 = .636$, $df = 2$, $p = .728$), so there is again no violation of sphericity. The repeated measures ANOVA demonstrated that the mean contentment with life showed a statistically significant interaction effect of time and group ($F(2,24) = 3.631$, $p = .042$, partial $\eta^2 = .232$), which is again shown in Table 3. Effect size $f = .63$ shows a strong effect.

Table 3: Study 1 – Development of the variables between intervention and control group

Variable	Intervention group (<i>n</i> = 8)						Control group (<i>n</i> = 8)						time x group	
	T1		T2		T3		T1		T2		T3			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Perceived stress	2.91	.54	2.13	.40	2.10	.64	2.13	.59	2.14	.82	2.27	.59	6.937	.004
Contentment with life	3.90	.31	4.31	.39	4.19	.51	3.90	.32	3.80	.43	4.00	.42	3.631	.042

5.3.2 Study 2

The Mauchly test proved to be significant for variable 1 (“perceived stress”) in the comparison of both groups ($\chi^2 = 8,365$, $df = 2$, $p = .015$), so that a Huynh-Feldt correction was made ($\epsilon > .75$). A repeated measures ANOVA with a Huynh-Feldt correction determined that means of variable 1 showed no statistically significant interaction effect of time and group, $F(1.71, 46.71) = 1.85$, $p = .173$, partial $\eta^2 = .064$. This can be seen in Table 4 and Figure 4. For variable 2 (“well-being”), the Mauchly test did not prove to be significant in the comparison of both groups ($\chi^2 = 3,170$, $df = 2$, $p = .205$). Thus, there is no violation of sphericity. The repeated measures ANOVA determined that the means of variable 2 showed a statistically significant interaction effect of time and group ($F(2,54) = 5.615$, $p = .006$, partial $\eta^2 = .172$). The effect size $f = .50$ shows a strong effect (Cohen, 1992). Variable 3 (“knowledge about stress and coping”) proved to be not significant with the Mauchly test ($\chi^2 = 3,959$, $df = 2$, $p = .138$). Hence, sphericity is assumed and the ANOVA with repeated measurement showed a statistically significant interaction effect of this variable ($F(2,50) = 7.196$, $p = .002$, partial $\eta^2 = .224$). Here, the effect size $f = .61$ shows a strong effect.

Table 4: Study 2 – Development of the variables between intervention and control group

Variable	Intervention group (n = 25)						Control group (n = 13)						time x group	
	T1		T2		T3		T1		T2		T3			
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	F	p
Perceived stress	2.79	.65	2.54	.72	2.34	.62	2.30	.67	2.22	.80	2.48	1.09	1.853	.173
Well-being	3.57	.76	3.62	.76	3.82	.65	4.36	.31	4.17	.74	3.80	.94	5.615	.006
Knowledge about stress and coping	10.15	3.14	14.67	1.91	15.30	2.92	10.13	1.03	8.50	2.97	8.88	4.05	7.196	.002

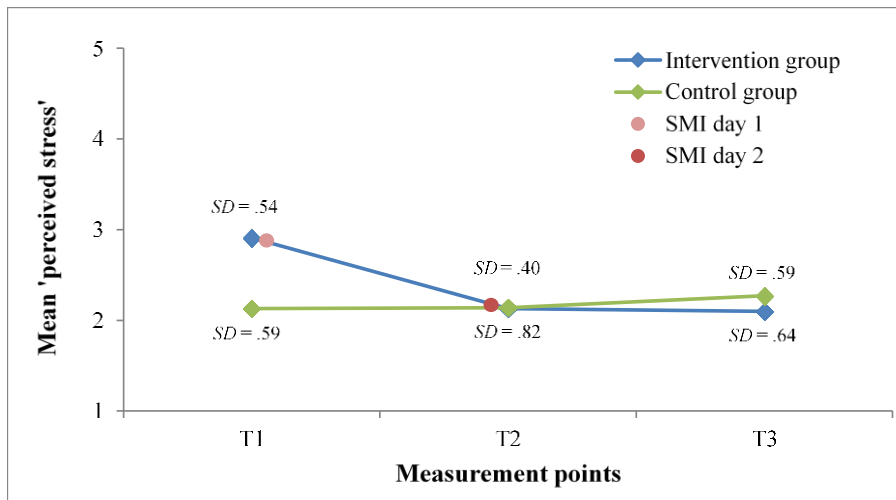


Figure 3: Development of mean perceived stress levels in study 1 between intervention and control group

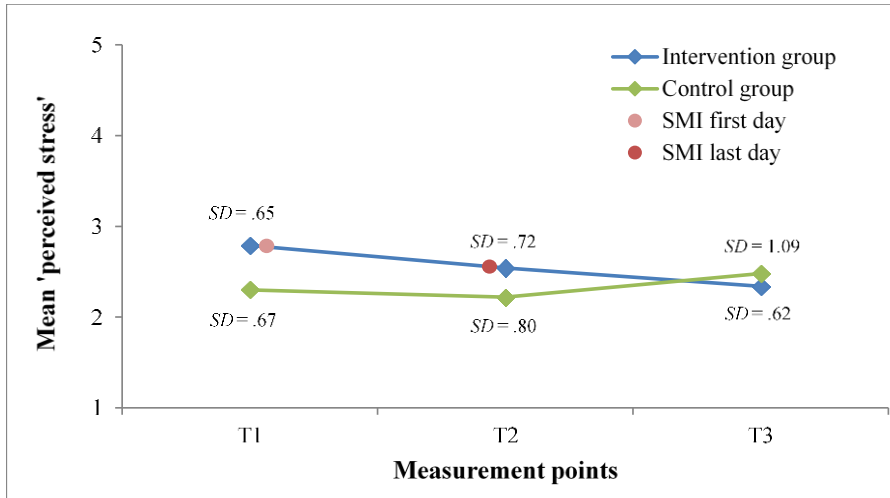


Figure 4: Development of mean perceived stress levels in study 2 between intervention and control group

6 Discussion and conclusion

The research question of the two studies investigated the effectiveness of a holistic SMI for students in higher education. It was hypothesized that the SMI will lower perceived stress and increase contentment with life (study 1) or lower perceived stress and increase well-being and knowledge about stress and coping (study 2) among the participating students, as compared to the control group.

Study 1

In study 1, perceived stress levels changed significantly over time, decreasing visibly, compared to the control group. Adding to that, the variable of contentment with life also changed significantly over the three measuring points between the groups, while the mean levels of contentment with life were the same for both

groups at T1. Thus, the SMI was successful in lowering perceived stress and increasing contentment with life.

Study 2

The second study shows similar results: well-being and knowledge about stress and coping increased significantly over time compared to the control group, while the mean level of knowledge was the same at T1. This shows that the SMI was successful in increasing well-being of the students and their knowledge about stress and coping. Interestingly, participants of the intervention group experienced lower well-being at T1 than did the control group. The same can be seen for perceived stress levels: the participating students of the SMI showed higher levels of perceived stress at T1. The reason for that could be that students were already aware of their state of mind and their stress levels, and therefore specifically sought out an opportunity to support them. On the other hand, participants of the control group showed lower well-being and higher perceived stress levels at T3. The SMI might already have had an influence on how well participants of the intervention group handled stress, compared to the control group, as final exams took place between T2 and T3. It might also be that the participants of the SMI have a higher awareness of their perceived stress levels.

Perceived stress did not change significantly between the intervention and the control group over the three measuring points in study 2. There was no significant interaction effect. As the means do show a decline in stress of the intervention group between T1 and T3, while the control group's means increase from T1 to T3, the results could be explained by the high drop-out rate of the control group. Only five out of 13 students of the control group consistently answered the questionnaire at T1, T2, and T3. Furthermore, the whole sample size was quite small, which might lead to the fact that actually significant differences did not produce significant results (COHEN, 1988). There was no difference regarding the results when testing the data without the slight outliers. As much research has already established the effectiveness of SMIs in higher education (e.g., CONLEY, DURLAK & KIRSCH, 2015; REGEHR, GLANCY & PITTS, 2012), the SMI actually having no effect on perceived stress seems unlikely. Adding to this, the statistical power

was not high (possible Type II error). To eliminate this probability in the future, a power analysis to calculate a minimum sample size required is recommended.

Further significant differences between the groups

Further testing with the ANOVA showed no significant differences in the intervention group between gender, age, and progress of studies. Interestingly, two influencing factors seemed to play a role in the development of perceived stress levels: prior engagement with the subjects of stress and coping and job experience. The students with prior engagement showed increased stress levels from T1 to T2 and decreased stress levels from T2 to T3 but stayed above the means of T1. It seemed the intervention did not lower their perceived stress levels. In contrast to that, perceived stress levels of students without prior engagement decreased between T1 and T3 consistently. Therefore, the SMI seems to have been more effective for students without prior engagement. It could mean that prior engagement sometimes leads to rumination rather than actively dealing with stress. This behavior can be seen as negative coping and presents an interesting aspect for further research. Another explanation could be a difference between the knowledge students gained from prior engagement and what they learned in this SMI (conflicting or repetitive knowledge).

The second influencing factor (job experience) showed decreasing stress levels throughout T1 to T3 for students with job experience. Those without showed an increase from T1 to T2 and a decrease from T2 to T3. Therefore, the intervention seemed to have ultimately lowered their mean level of perceived stress as well. The SMI is designed for participants to experiment with the learned methods and strategies in their daily life. Without practical job experience, new knowledge might not have been used to a full extent. Being in a work environment could have opened up more possibilities to practice “in the real world.” Another explanation could be that students with job experience already have a lower threshold of what they experience as stressful. As the SMI builds up knowledge and practice over time, students without job experience might have made up with time for “opportunities missed.”

Based on the findings of the implemented studies, the SMI was able to make a further contribution to moderate the current situation at the universities. The intervention was introduced to help the participants better cope with high demands and difficult situations and stressors. It was effective in reducing their perceived stress levels, increasing their contentment with life or well-being, and gaining knowledge about stress and coping. The integration into a seminar was successful. Overall, the results confirm the hypothesis that the SMI will have a positive influence on health of the participating students. Therefore, this approach could be the basis for implementing pre-emptive SMIs in students' curricula at this particular university as a permanent element or in other universities as an integral part of higher education.

6.1 Limitations

Regarding the limitations of the current studies, the small sample size in study 1 ($n = 16$) in particular and the high drop-out rate of the control group from 13 to five students in study 2 stood out. They could also be the reason for the non-significant effect of the measured stress variable in the second study. As the intervention is based on cognitive-behavioral approaches and also bases its effects on (psychotherapeutic) group methods, a smaller group size is preferable. As SMIs have also shown to be effective for larger-sized groups (BROWN, COCHRANE, MACK, LEUNG & HANCOX, 1998), forming a larger group would be an option in general, but not for this type of SMI. Therefore, creating a larger sample size proves to be difficult and might only be enabled over time and by offering the seminar to a multitude of student groups at the same time. This would also overcome the limitation of the rather exploratory approach of the studies, seeing the smaller sample sizes and contexts in which they took place. But realizing a larger context would also require the use of more resources on top of the usual workload at the universities. Another limitation of the studies was the non-randomization of the participants. As the results showed, it seems likely that there is a bias, and students who feel the need to take part in such an intervention will do so.

In addition, one has to keep in mind that the control group did not take part in any form of SMI, but received no treatment. Accordingly, a general difference between

the groups is likely. Furthermore, the change in means of the intervention group has to be considered in the light of subjectivity, which self-reported measures are prone to. This might be overcome by adding learning journals and also observing behavior of the participants. But as the actual implementation of new knowledge takes part outside of the seminar, this might be difficult to realize. Regarding that, there certainly are other influencing factors involved, as stress development is already such an individual and complex process by itself. Those factors have not been analyzed in these studies. Adding to that, for new knowledge to turn into a lasting change in behavior, it has to be constantly repeated and applied. This cannot be guaranteed by one intervention alone.

6.2 Future research avenues and implications

In order to further optimize the intervention and the studies, the seminar and SMI need to be replicated repeatedly in the coming years to broaden the context and sample size. This will also help to better exclude possible interferences and to take into account other factors that may have an influence on the results (personal and organizational). Therefore, further research should be done with various student groups, more conditions and other influencing factors, such as assessment of students' motives for participation and correlating concepts like coping strategies or resilience.

The research suggests further developing stress management by introducing the intervention as a fixed element in higher education. In addition, the concept could be implemented long-term, so that not only a larger number of seminars take place, thereby include a larger sample size, but also that the intervention is extended by complementary follow-ups. This way, the long-term transfer of knowledge, strategies, and methods can be ensured and will promote the desired changes in behavior. Consequently, students would not only be prepared for prospective difficulties in their current environment, but would also gain meaningful knowledge and strategies once they enter working life. In order to enhance this long-term development, e-learning concepts or short-term refresher courses could be offered as a flexible and effective extension to the full SMI. Also essential in this matter might be "crit-

ical” or “urgent” course units in phases where particularly high stress levels prevail, such as the time of examinations. This would also allow a long-term effectiveness analysis. Moreover, the intervention could not only be implemented as an important element in German universities’ curricula but could also be transferred into international contexts, ranging from courses for international students in Germany to other universities all over the world.

7 References

Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., ... & Nock, M. K. (2016). Mental disorders among college students in the World Health Organization world mental health surveys. *Psychological medicine*, *46*(14), 2955-2970.

Brähler, E., Mühlhan, H., Albani, C., & Schmidt, S. (2007). Teststatistische Prüfung und Normierung der deutschen Versionen des EUROHIS-QOL Lebensqualität-Index und des WHO-5 Wohlbefindens-Index. *Diagnostica*, *53*(2), 83-96.

Brown, J. S., Cochrane, R., Mack, C., Leung, N., & Hancox, T. (1998). Comparison of effectiveness of large scale stress workshops with small stress/anxiety management training groups. *Behavioural and Cognitive Psychotherapy*, *26*(3), 219-235.

Buhmann, C., Jungnickel, D., & Lehmann, E. (2018). Stress Management Training (SMT) Improves Coping of Tremor-Boosting Psychosocial Stressors and Depression in Patients with Parkinson’s Disease: A Controlled Prospective Study. *Parkinson’s Disease*, 2018.

Cohen, S., Kamarck T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*(4), 385-396.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *122*(1), 155-159.

- Conley, C. S., Durlak, J. A., & Kirsch, A. C.** (2015). A meta-analysis of universal mental health prevention programs for higher education students. *Prevention Science, 16*(4), 487-507.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B.** (2001). The job demands-resources model of burnout. *Journal of Applied psychology, 86*(3), 499.
- Gusy, B., Lesener, T. & Wolter, C.** (2018). Burnout bei Studierenden. *PiD-Psychotherapie im Dialog, 19*(03), 90-94.
- Gusy, B., Wörfel, F., & Lohmann, K.** (2016). Erschöpfung und Engagement im Studium. *Zeitschrift für Gesundheitspsychologie, 24*(1), 41-53.
- Kaluza, G.** (1999). Sind die Effekte eines primärpräventiven Stressbewältigungstrainings von Dauer? Eine randomisierte, kontrollierte Follow-up-Studie. *Zeitschrift für Gesundheitspsychologie, 7*(2), 88-95.
- Kaluza, G.** (2000). Changing unbalanced coping profiles-A prospective controlled intervention trial in worksite health promotion. *Psychology and Health, 15*(3), 423-433.
- Kaluza, G.** (2015). *Stressbewältigung: Trainingsmanual zur psychologischen Gesundheitsförderung*. Springer-Verlag.
- Lazarus, R. S.** (1966). *Psychological stress and the coping process*. New York, NY: McGraw-Hill.
- Lazarus, R. S., & Folkman, S.** (1984). *Stress, appraisal and coping*. New York, NY: Springer.
- Lazarus, R.S., & Folkman, S.** (1986). Cognitive theories of stress and the issue of circularity. In M. H. Appley, & R. Trumbull (Eds.), *Dynamics of Stress. Physiological, Psychological, and Social Perspectives* (pp. 63-80). New York, NY: Plenum.
- Leka, S., Jain, A., & World Health Organization** (2010). *Health impact of psychosocial hazards at work: an overview*. Institute of Work, Health & Organisations, University of Nottingham.
- Lohmann-Haislah, A.** (2012). *Stressreport Deutschland 2012. Psychische Anforderungen, Ressourcen und Befinden*. Berlin: BAuA.

Regehr, C., Glancy, D., & Pitts, A. (2012). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders*, 148, 1-11.

Richardson, K. M., & Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of occupational health psychology*, 13(1), 69-93.

Schmidt, S., Mühlan, H., & Power, M. (2006). The EUROHIS-QOL 8-item index: psychometric results of a cross-cultural field study. *The European Journal of Public Health*, 16(4), 420-428.

Selye, H. (1956). *The Stress of Life*. McGraw-Hill, New York, NY.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, S., & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): Development and UK validation. *Health and Quality of life Outcomes*, 5(1), 63.

Author



Natalie PETERS || TU Dresden, Faculty of Business & Economics,
Chair of Business Education & Management Training ||
Münchner Platz 3, D-01062 Dresden

<https://tu-dresden.de>

natalie.peters@tu-dresden.de