

An exploration into the stressors in 2020 Netherlands student life

Author: Saskia Helmich
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

ABSTRACT,

Purpose: Finding new stressors in study-life and checking if the earlier identified stressors are still applicable through an exploratory study

Design/methodology/approach: To find new stressors and confirm whether existing ones were still applicable open, in depth interviews were done. Participants were chosen based on being from different studies, including an international student and a non-university student This to gain different perspectives.

Findings: Stressors found in earlier studies are still applicable and no new stressor was found. It is recommended to take a closer look at communication between students and faculty. The participants also shared their way of keeping balance by taking time for personal activities and keeping a good schedule. The pandemic may have a negative influence on both worries about the future and coping mechanisms, such as support groups. Covid-19 is making already existing problems harder, while decreasing coping mechanisms.

Originality: This study makes a modest attempt to relate findings of earlier studies to the current day situation in the Netherlands.

Limitations: the findings are not generalisable, as the sample size is small and it is only an explorative study into stressors affecting study-life balance.

Graduation Committee members:

Prof. dr. Tanya Bondarouk

Dr. Anna Bos-Nehles

Keywords

stress, study-life balance, small study

INTRODUCTION

In November 2019 the Intercity Student Discussion (ISO) admitted a report on student wellbeing. This report discussed that about 71% of students are often-very often felt pressured to perform. According to the authors this finding is cause for concern, as pressure to perform turns into stress; about 55% of the interviewed students were experiencing symptoms of stress. This stress they experience is the long-term harmful kind, damaging their mental health and wellbeing (ISO, 2019). In response to this report, Patricia Veldhuis (2019) wrote an article, containing opinions of several psychologists in this field, in *NRC Handelsblad*. According to those experts, the stress level is still about the same as 20 years ago; however, as the stigma of seeking help has lessened, it may be more noticeable.

Stress among students can be caused by imbalances between study and life, just as for the working population a disturbance of work-life balance (WLB) can cause stress. There has been a significant amount of research on stress induced by disturbances in work-life balance. In examining the problem, I draw from the available literature on the topic of stress and WLB.

There are many differences between work-life and study-life balance. An example is the high permeability, study and life generally directly flow into each other, as all activities are around the study.

No all-encompassing definition of study-life balance was found in the earlier academic papers. The definition of Clarke, Koch and Hill (2004) who argue that - work-life balance is achieved when harmony or equilibrium between work and other life domains is viable and sustainable - is adapted here to read: study-life balance (SLB) is defined as having an acceptable level of satisfaction reached in both students' lives and in their study.

Based on the literature, an in-depth interview will be done to see if students during this time have different stressors than 20 years ago and

if an application could help in detecting and managing stress.

Research question

Which study-life balance related stressors can be found in current day students from different backgrounds and ?

My central research question leads to the following subquestions:

- What is study-life balance?
- Is an imbalance in student-life leading to stress?
- How has Covid-19, social distancing and lockdown affected students stress levels?

The harms of stress caused by study-life imbalance :

The concept of WLB is based on the construct that work life and private life can be distinguished in a temporal, spatial sense and that cognitive, physical and/or behavioral boundaries exist between the two (Ashforth et al. 2000, Hall & Richter 1988, Nippert-Eng 1996). Disturbance of WLB through a high permeability of the boundaries between 'work' and 'life' can lead to adverse effects such as depression and stress (Adisa et al, 2017). For some people, however, high permeability may actually have positive effects.(Dén-Nagy, 2014)

Just as WLB tends to influence the stress levels of workers, SLB influences the stress levels of students.

Abouserie (2006) studied sources of stress in relation to the locus of control and self esteem in university students. While keeping in mind that the data for this study is already more than 15 years old and that it has been drawn from the Anglo-Saxon school system, it is worthwhile to look at the leading causes of stress. According to Abouseri, the leading 10 causes of stress are: 1) *Examinations and their results*, 2) *studying for exams*, 3) *too much to do*, 4) *amount to learn*, 5) *self-imposed need to do well*, 6) *essays and projects*, 7) *financial problems*, 8) *lack of*

time for study, 9) timing and spacing of assignments, and 10) the need to do well imposed by others.

The full list can be found in Appendix B

Methodology

A survey or interview were considered, focusing on seeing if other stressors are felt by students. The interview was chosen, because talking in-depth about work-life balance and stress may point out new stressors, while confirming the ones found in literature hold true. As Boyce and Neale (2006) describe: *“In-depth interviews are useful when you want detailed information about a person’s thoughts and behaviors or want to explore new issues in depth.”*

No attempt to generalise will be made, as it is beyond the scope of this study. Therefore, an open topic question list is appropriate. For the same reason, a small sample size is sufficient. As such, I approached four students, from different studies and backgrounds to conduct interviews with. The criteria I used were, a student, each from a different study. I made sure to include an international student. As well as a student not from a university. This to ensure that I got views on stress and study life balance from different perspectives.

Boyce and Neale (2016) have a step-by-step guide on conducting in-depth interviews, it will be followed as closely as possible, given the current situation (as some parts will be hard to follow given Covid-19).

In order to understand study-life imbalance which causes stress, the whole chain from WLB disturbance through physical/emotional symptoms down to the underlying causes should be researched. It is beyond the scope of this thesis to go into detail, however a general attempt to summarize known causes and effect has been made

In the chapter before, common stressors in WLB (Kim & Christensen 2017) have been mentioned, and in student life based on the papers of Doble & Supriya (2011)) and Abouserie (1994). We indicated that these stressors cannot directly be translated to students in the Netherlands in 2020 and this brings up the need to look for stressors which can be important for here and now. On top of that the 1,5m society due to Covid-19 is completely new, with possibly new stressors that emerge in these awkward times.

As the Dutch student population in 2020 differs greatly from earlier studied populations in the literature, finding if the stressors from the literature can be confirmed and finding new stressors is a goal of this study.

Research Ethics

Research in the Humanities and Social Sciences should follow its guidelines (University of Twente, 2019). There is a need for consent and respecting the dignity of the persons involved in the research. Also necessary is proper storage of data, the protection of data and personal characteristics. Part of this overlaps with the GDPR.

Interview protocol

To guide the interview a protocol has been set up (appendix A). In this protocol the goal of the study is explained and the way data will be treated. Since it is necessary to record the interview, consent is asked for the recording as well as the use of this data for this specific research. Explanations on how the data will be stored and how privacy of interviewees will be protected throughout the study is explained. Because of Covid-19 face-to-face interviews are impossible, which makes it difficult to fill out consent forms. This will therefore be replaced by a spoken consent form and the spoken agreement by the interviewee.

Since it is planned to target one specific group, one interview protocol is sufficient. If other

stakeholders would be included additional protocols make sense.

List of open topics

The interviewees were asked to respond to the following open topics. Following Boyce and Neale (2016) it was decided to have just a few open questions.

1. What is balance between study and student life, what influences this balance? And in your case?
2. Can you describe what the relation between student life and study is for you? And what the most intense part of studying is?
3. How would you describe the balance between study and student life? (What do you feel are the underlying reasons? Follow up?)
4. What kind of stress did you experience?
5. What kind of role did/does study - life balance in the stress you experienced?
6. What are the positive sides you see in the combination of study and student life?
7. optional: If you had to make a judgment between the positive and the negative aspects of the combination of study and student life, how would you make such a judgment?
8. How do you think an application could make(causes mentioned in the interview) in your student life balance better manageable?

This list was based on the theory which is described in the first chapter.

Results:

For all participants making sure there was time to relax or at least have some time for themselves was a way to keep balance. As soon as that balance was tipped over, it caused stress. The reason for the disruption differed for

different students. For C, an internship demanded too much, he got pushed out of the equation, causing so much stress to build up that it caused a burnout.

For S it was mostly juggling so many pressures around at once, that it just failed sometimes. Mental health, worries over finances, guilt about not doing enough to justify studying abroad, heavy workload are all pressures that could and did disrupt an already precarious balance in his life. Causing him to shut down completely.

E and M also emphasized that planning time for themselves is key in keeping a healthy balance. Having a set couple of days to reload the brain is a natural way to keep their stress-levels down.

Communication from the institution and the timing of deadlines and exams are stressors as well. When communication is done well, it is capable of relieving pressure, by making planning easier. On the other hand, it can be a major stressor, as communication done poorly, will mean students don't get to plan at all or have to reschedule their own lives. Deadlines and exams, when well timed and communicated, can already cause stud-life balance to tip over toward just the study part. When communicated poorly, it is capable of causing a lot of stress. This however is not something students can change, besides asking for better communication.

A major stressor, where natives do not really encounter or think about is the need to fit in, is the need to try and fit in, because racism, anti-international and being harshly judged for every small action, still happen. Although finding a community of friends can waylay some of this pressure, it does not make studying in a very different country any easier.

The help of a good support group, can also help in dealing with other stressors. From giving a different perspective, to dragging you away from study to just do something fun. Having friends support, may also drag you through a stressful time and help you bounce back to a healthier study-life balance.

An app showing what time and energy is spent on which activities, might make planning much easier, thus achieving a more balanced study-life more manageable. Figuring out how to deal with the different pressures and needs is hard. Even though there are less serious consequences during the studies, making this a good time to figure out how to achieve some kind of a balance. A tool to help give overview could make figuring out what balance means easier achievable. We do not know what kind of impact Binding Study Advise (BSA) has had on the perception of and actual seriousness of consequences. Although the policies showing more leniency because of Covid-19 may have helped mitigate this.

See appendix C for the full summaries of the interviews.

Discussion & Conclusion

A closer look at student life and study is given below in a qualitative way, to emphasize the differences in WLB and SLB. Study is generally started at the age of 18 to 20. Since not every city in the Netherlands has a university or *hogeschool* (often translated as university of applied sciences) students must commute or find housing (*kamers*) at their university and adjust to a new social environment. *Op kamers gaan* (boarding) often means that students must establish a household for themselves for the first time in their lives. Furthermore, the schooling system is often very different than that to which they were accustomed, quicker knowledge transfer and requiring more self-discipline. While the former (adjustment to housing) is particularly impactful for first-year students, the following aspects continue throughout the years of study: There is pressure to get good grades

(from peers, family and self-imposition); increased homework; deadlines; relations with the faculty; time and financial pressure; redefining relations with family and friends; new relations with peers and possibly with the (opposite or same) sex. Student life often leads to new eating and sleeping habits and students must adjust to, or cope with, all these new changes in lifestyle. For students from another, non native, ethnic or cultural background coping is often more difficult than for native students. Also, even these days, women feel more pressure from their environment than men and part time students have more issues to deal with than full time students (Abouserie, 1994). The study of Doble and Supriya (2011) gives a more quantitative approach, where proper assessment was done with a brainstorming session among students, a pilot questionnaire followed by a full scale questionnaire. This approach is not possible in this bachelor research, so the description is necessarily qualitative only.

While work and private life are often segmented (but with increasing permeability such that Adisa et al. 2016 question the segmentation), study and student life have always had a high permeability. In study one often (if not only) meets with students and often with students of the same study. Joint dinners and study support from peers often lead to friendships. Student unions are exclusively for students and sport is generally done in the framework of the university. In this microcosmos everything is related and therefore one can argue that segmentation is low to very low. Just as for work-life balance this can lead to very positive effects as well as very negative effects.

In this thesis only two conclusions of the study by Doble & Supriya (2011) will be highlighted.

- 1) The 15 components they find in their analysis can be split in two groups: one group of 7 institution-based items over which the student has little to no control and one group of eight that can be addressed by the student her/himself. Doble et al. describe these as follows:

“They are personal habits and worries, hobbies and curricular activities, career expectations, marriage, house chores, distraction factors, desires and apprehensions and coping.”

- 2) The number one component leading to disturbed WLB is the group of stressors grouped under personal habits and worries.

Results from India in 2011 may not be directly translatable to the Netherlands in 2020, nevertheless if a more detailed study leads to the same results, then disturbance of WLB in student life may not only be detectable, but also be adjustable to a better WLB by applying different coping strategies and adjusting personal habits. In the analysis of the interview we will do this check as well.

In the last paragraph, the difference between work-life and study-life balance is sketched out.

Symptoms of stress

As shown above work-life and study-life imbalance can cause stress. So, knowing what stress entails might be beneficial. Stress is the reaction of the body to harmful situations, arising from the fight or flight response that is present in most animals. A little bit of stress can be beneficial, but long-term (excessive) stress is harmful to the body and mind. (Doble and Supriya, 2011)

Stress has a different meaning for different persons and it is difficult to get an accurate description of what stress entails and which symptoms are directly related to stressful situations. Stress symptoms can be similar to medical conditions. Different stress symptoms may be experienced by different persons even when caused by the same stressor.

Stress symptoms include emotional ones, such becoming easily agitated or frustrated, having low self-esteem and isolating oneself. Physical symptoms may include low energy, headaches, diarrhea, nausea and chest pain. Cognitive symptoms may include worrying and forgetfulness. Behavioral symptoms may

include procrastinating and drug and alcohol abuse. (WebMD, n.d)

Effects of stress on three levels

As described earlier disturbance of work life balance can have negative effects on health and well-being. In this section a description is given of the negative implications caused by stress in the (applied) university context. There are three levels considered: the student her/himself, the university and society as a whole.

Negative effects of a disturbed work life balance may give cause to health problems for any person (Hall & Richter, 1988) and this is not different for the student. For students it increases the chance of not finishing their studies. While this may seem similar to other people losing jobs the implications may actually be larger, since a career broken early on, may be difficult to recover and may lead to lower income over the entire life. Early detection and corrective/mitigative actions will have great benefit for (young) students (Doble & Supriya, 2011).

For the universities there is the added problem of financing. According to the government (Rijksoverheid, n.d.) universities and applied universities get a fixed amount and a variable amount of money each year as specified by the government on basis of the “Regeling Financiering Hoger Onderwijs”. The variable part is related to the number of bachelor and master students at the universities who finish their studies within the nominal study time and also related to the number of master and bachelor exams obtained each year. Drop-out of students due to factors related to disturbed work-life balance are thus not only a social question, but become a socio-economic question for the university boards.

In the strategy of Lisbon the EU countries decided that more research and development was needed for the economy and society of its member states. Although the strategy of Lisbon is considered a failure, its successor, the EU

2020 strategy, still includes the strong wish to raise the level of education of its residents. In words of the commission: *The share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary degree.* Drop-out of students at universities makes it difficult to reach the latter goal, which is seen as one of the factors for a growing economy and a healthy society. Zakaria et al. (2019) quote the World Health Organization in saying that depression (through absenteeism) is one of the leading causes of lost economic productivity. This is not specific to students, but applicable to the world-wide economy.

Measuring stress levels using physical, behavioural and perceived symptoms

As study-life and work-life imbalance are hard to measure directly, effort have been focused on measuring stress, using bio-metrics, behaviour changes and perception. Ways of measuring study-life balance are being developed, but it is important to validate those with already known ways.

As such there is the possibility to use bio-metrics in the detection of stress. Most bio-metrics are impractical, however. Measurement of heart rate variability is an option, as almost all smart watches have a heart rate monitor, which, while connected to a smartphone, can directly insert the data in an application for measuring stress.

Zakaria et al. (2019) came to a different measure, instead of a physiological approach, they studied social behaviour as given by location and contacts. Making use of routers, they tracked the behaviour and environment of students. By comparing the behaviour to a baseline it was possible to determine if students were stressed, depressed or in a normal state. This does however require access to location or router data, which might be a privacy sensitive matter.

Lastly, a very common way is using a questionnaire to see the perceived stress levels. It is used a lot by psychologists, although there are many varieties of this questionnaire, they all

measure perceived levels of stress by focusing on events and feelings over a set period of time. An example is the perceived stress scale by Cohen et al. (1983).

The effects of the pandemic on the stress levels of students.

As the world has been in the ban of the pandemic for over a year now, it also became visible what extra challenges and other effects this has on managing study-life balance and the stress levels of students.

There were a couple more noticeable negative effects noted by the meta-analysis of Batra et al. (2021), It showed that stress, anxiety and depression have are more prevalent than before corona, with stress rising from 13.4% to 26.0. The worries about study are mostly associated with uncertainty over time-line to graduation, post graduation plans, worries about internships and transition to doing everything online. There are worries about the finances, due to loss of part-time jobs, that have increased stress-levels. While the worries have increased, the coping mechanisms used by students, such as parties, socialising, living in a student house, associations and other activities, including sports, have taken a hit. As various countries around the world have been in lock-down for several months, these activities are severely restricted. (Batra et al, 2021) Thus decreasing the ability to achieve a study-life balance. The consequences of Covid-19 varied depending on where the students lived, if they relocated to their parents house, if they had access to outside, like a garden, pre-existing health and mental health conditions and several other variables. (Husky et al. 2020)

Interviews

What is study-life balance? Is an imbalance in student-life leading to stress? What kind of stressors are related to study-life balance? Do we have a complete inventory of the most common stressors?

The participants in the interviews each had different viewpoints on stress, stress management and study-life balance. All of them agreed that making sure, there was enough time for just yourself was very important in maintaining a healthy study-life balance. This is also shown in the research previously mentioned in chapter one (a.o. Doble and Supriya 2011 describing coping strategies)

In the interviews several stressors were mentioned that had been identified earlier by Doble and Supriya (2011) and Abouserie (1994). In appendix B their lists of stressors are given, on which the interview results are mapped.

Abouserie (1994)

C: 3, 8, 9, 10, 11, 17

E: 1, 9

M: 1, 4, 9

S: 3, 5, 7, 9, 10, 12, 20, 25, 28

Doble and Supriya (2011)

C: 2

E: 2, 3

M: 2

S: 2, 10, 7,3, 1

From these it can be concluded that Doble and Supriya (2011) point 2 (college environment such as college Timings, college rules, assignments, attendance and dress code) or point 9 of Abouserie (1994) (Timing, spacing of assignments) is the most common stressor in the small sample. All other stressors are much more varied among the interviewees. More implicit were the distraction factors (interview C and S) and apprehension (interview C).

Here we highlight one stressor given in interview C: proper communication. Abouserie (1994) describes this as stressor number 10 “the need to do well (imposed by others)” Although labeled “proper communication” looking back C realized that it was never clear what the expectations were at the side of the organization and if C would be able to fulfill this. It would be appropriate if a follow-up

study with a larger group of students would include this stressor. Especially when it comes to internships and thesis research it may play a larger role than expected, although it is not new.

A description of stress, symptoms of stress and stressors have been given based on the scientific literature and publicly available reports. From the literature (mainly Abouserie 1994 and Doble & Supriya 2011) the most important stressors have been taken. A series of interviews was done to identify if the student population in the Netherlands in 2020 was susceptible to the same stressors as the Indian student population of 2011 or the Anglo-Saxon student population of more than 15 years ago. Although the sample was small, some of the stressors are indeed the same and no clear hints are found of large differences. Therefore, it is expected that including the list of most important stressors of Abouserie (1994) and Doble & Supriya (2011) can be used as a basis for an application that will measure disturbances in student-life balance. Follow-up studies should determine the best way to implement this.

The impact of Covid-19 and all the social implications and consequences were mostly increasing the already existing problems, rather than creating new ones. While decreasing the coping mechanisms students have for dealing with stress. This includes increasing the difficulty of living alone and adapting to such an environment. Which is the reason why students that didn't return to their parents houses, had a tougher time during lockdown, than those who had somewhere to fall back to. (Husky et al. 2020)

I did not specifically go into depth on the pandemics influence during the interviews, which directly limits the the possible inferences made in this part to what I was able to observe in my interaction with the participants and my peers in general. However one of the more important coping mechanisms according to my findings is having a good support group. This is

also a factor that may have been influenced the most, especially newer students or students from abroad may have a tougher time building up such a group. As interaction is often limited to the occasional online activities it is much harder to connect with people, thus making the already difficult task even harder. This might be more so for students who find it hard to make friends or keep in touch without seeing the other person regularly.

As lectures and other classes are done online, or even recorded, life may also have become more flexible. Giving students the ability to more easily study when they are more optimally awake or prepared for the class. On the other hand is the entire structure of the day, where a large part of it is scheduled gone as well.

The more easily distracted students can no longer go to places such as the library to help focus on course work, making this part of studying harder once more. However this is only the case when places are in complete lockdown, which might be more temporary than the actual pandemic.

As this is all speculation with only what was observed in my environment as basis, it should be investigated further.

REFERENCES

Abouserie, R. (1994). Sources and Levels of Stress in Relation to Locus of Control and Self Esteem in University Students. *Educational Psychology, 14*(3), 323–330.

Adisa, T. A., Gbadamosi, G., & Osabutey, E. L. C. (2017). What happened to the border? The role of mobile information technology devices on employees' work-life balance. *Personnel Review, 46*(8), 1651–1671.

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: boundaries and micro role transitions. *Academy of Management Review, 25*(3), 472–491.

Batra, K.; Sharma, M.; Batra, R.; Singh, T.P.; Schvaneveldt, N. (2021) Assessing the Psychological Impact of COVID-19 among College Students: An Evidence of 15 Countries. *Healthcare 9*, 222. <https://doi.org/10.3390/healthcare9020222>

Boyce, C., & Neale, P. (2006). Conducting in-depth interviews: A Guide for Designing and Conducting In-Depth Interviews for Evaluation Input. *Pathfinder International Tool Series*.

Burnard, P. (1991). A method of analysing interview transcripts in qualitative research. *Nurse Education Today, 11*, 461–466.

Clarke, Koch, Hill 2004

Clarke, M. C., Koch, L. C., & Hill, E. J. (2004). The work/family interface: Differentiating balance and fit. *Family and Consumer Sciences Research Journal, 33*(2), 121–140.

Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 386–396

Dén-Nagy, I. (2014). A double-edged sword?: A critical evaluation of the mobile phone in creating work–life balance. *New Technology, Work and Employment, 29*(2), 193–211.

Doble, N., & Supriya, M. V. (2011). Student life balance: myth or reality. *International Journal of Educational Management, 25*(3), 237–251.

Hall, D. T., & Richter, J. (1988). Balancing work life and home life: what can organisation do to help? *The Academy of Management Executive, 2*(3), 213–223.

Husky, M.M., Kovess-Masfety, V. And Swendsen, J.D. (2020) Stress and anxiety among university students in France during Covid-19 mandatory confinement. *Comprehensive Psychiatry 102*

ISO. (2019). Analyse Studentenwelzijn, Een analyse van bestaande databronnen over studentenwelzijn in het hoger onderwijs. *Interstedelijk Studenten Overleg*.

Jacob, S. A., & Furgerson, S. P. (2012). Writing Interview Protocols and Conducting Interviews: Tips for Students New to the Field of Qualitative Research. *The Qualitative Report*, 17.

Kim, S., & Christensen, A. L. (2017). The Dark and Bright Sides of Personal Use of Technology at Work: A Job Demands-Resources Model. *Human Resource Development Review*, 1–23.

Nippert-Eng, C. (1996). Calendars and keys: The classification of “home” and “work.” *Sociological Forum*, 11(3), 563–582.

Pragholapati, A. (2020, May 11). *COVID-19 IMPACT ON STUDENTS*.
<https://doi.org/10.17605/OSF.IO/NUYJ9>
Retrieved July 5, 2021

Rijksoverheid. (n.d.). Financiering hoger onderwijs. Retrieved June 11, 2020, from <https://www.rijksoverheid.nl/onderwerpen/financiering-onderwijs/financiering-hoger-onderwijs>

STHDA. (n.d.). Text mining and word cloud fundamentals in R : 5 simple steps you should know. Retrieved June 12, 2020, from <http://www.sthda.com/english/wiki/text-mining-and-word-cloud-fundamentals-in-r-5-simple-steps-you-should-know>

University of Twente. (2019). Research Ethics Policy. Retrieved June 12, 2020, from <https://www.utwente.nl/organisatie/over-de-ut/integriteit/wetenschappelijke-integriteit/ethische-toetsing/>

Veldhuis, P. (2019, November 23). Stijf van de Stress onder een fleecedeken. *NRC Handelsblad*.

WebMD. (n.d.). Stress Symptoms. Retrieved June 11, 2020, from https://www.webmd.com/balance/stress-management/stress-symptoms-effects_of-stress-on-the-body#1

William E. Copeland, Ellen McGinnis, Yang Bai, Zoe Adams, Hilary Nardone, Vinay Devadanam, Jeffrey Rettew, Jim J. Hudziak, (2021)

Impact of COVID-19 Pandemic on College Student Mental Health and Wellness, *Journal of the American Academy of Child & Adolescent Psychiatry*, 60 (1) 134-141.e2,

Zakaria, C., Balan, R., & Lee, Y. (2019). StressMon: Scalable Detection of Perceived Stress and Depression Using Passive Sensing of Changes in Work Routines and Group Interactions. *Proc. ACM Hum.-Comput. Interact*, 3.

Appendix A: Interview protocol

Protocol for interview on study, student life and stress

Important ingredients are

- Agreement to proceed to interview by the thesis supervisor. Dr. Tanya Bondarouk with a list of agreed open questions
- Ask consent of the interviewee for recording the interview, analysing the recorded interview and using the findings in a bachelor thesis in an anonymous way.
- Ask consent to store the data according to the University rules on ethics, open science and using the restrictions imposed by the GDPR (AVG).

Welcome to the interview. This interview is done as part of a bachelor research I am doing at the university of Twente supervised by Tanya Bondarouk. In the research underlying this thesis we aim to identify causes of disturbed work-life balance for students.

Recent reports in the Dutch newspapers indicate that students are experiencing more stress than before. This has a negative influence on their wellbeing, as well as detrimental effects on the quality of studying itself. Universities and Hogescholen have realized this and measures are often in place for common problems. Some stressors are readily identified from the scientific literature both for students and for people in paid jobs. However, it was also realized that the environment of the student and the study may be significantly different from those experienced in paid jobs. In this study we want to identify early tracers of stress that are particular to students.

Interviews are part of the study and this interview is one of these that are going to be held. In the interview I will go through a list of open questions. Although I will stick with the order of my questions I may ask you to elaborate on your answer or clarify your answer with an example.

In order to do a proper analysis I ask your consent to record this interview and use the interview as underlying data for my thesis. All this will be following the University rules on research with humans, including ethical behaviour, data collection, open science and also according to the GDPR.

Since I cannot have the consent statement written down in corona times I would like to start the interview with asking for consent orally. I will need to record that. Is this OK with you? Please answer only with Yes or No

“Today is June XXX 2020. I, Saskia Helmich, ask Mrs/Mr XXX for consent of recording this interview and use the interview as underlying data for my bachelor thesis. I will follow the University rules on research with humans, including ethical behaviour, data collection, open science and I will work according to the GDPR. Can you give your consent, Yes or No?”

Then start the interview.

Rules for the interview

I have to keep the tone neutral but at the same time I need to remain involved in the interview and with the interviewee. If something is not clear, I need to ask for clarification or for an example.

I have to make sure that answers are not too short, but also have to keep time in mind. First questions can take up to 2 minutes, questions at the end of the list can take up to 4 minutes.

At the end of the interview I need to thank the interviewee for his/her willingness to be interviewed. I have to remember that I check that the interviewee feels well. So if any unpleasantness is present, I will close the interview formally and ask if there is anything that I can do.

Do not trust modern technology. I have to make short notes when it comes to confirmation of stressors and possibly new stressors.

The known stressors from Doble et al. are

- personal habits and worries,
- hobbies and curricular activities,
- career expectations,
- marriage,
- house chores,
- distraction factors,
- desires and apprehensions
- coping

and from Abouserie

- Examinations and their results,
- studying for exams,
- too much to do,
- amount to learn,
- need to do well,
- essays and projects,
- financial problems,
- lack of time for study,
- timing and spacing of assignments
- the imposed need to do well

Appendix B:

The known stressors from Doble et al. are

1. personal habits and worries are sickness, commuting, pocket money, alcohol, smoking,

distraction from opposite sex, fear of punishment

2. college environment such as college Timings, college rules, assignments, attendance and dress code

3. hobbies and curricular activities such as extracurricular activities, core-curricular contents, sports, hobbies and get together

4. career expectations such as salary expectation, job posting, and Job expectations

5. distraction factors such as attending wedding, movies, mobile phone and SMS

6. family and society such as death, societal pressures, misunderstanding with peers and pressures from family

7. teaching and evaluation methods such as favoritism by teachers, teaching methods and evaluation

8. growing up such as responsibility being eldest child, change of residence, distraction by friends and bad influence

9. desires and apprehensions such as missing meals, desire to sleep more, future career prospects and drugs

10. hostel life such as fear, living in hostel and demands of Hostel life

11. includes variables pertaining to teacher support such as course content, Teachers and coaching classes

12. coping such as Watching sports program on tv, quarrels, sibling rivalry and part time jobs

13, 14 and 15 only one item in them namely special class, house chores and marriage respectively.

C: 2,
E: 2 and 3?
M: 2
S: 2, 10, 7,3, 1

and from Abouserie

1. Examinations and their results
2. Studying for exams
3. Too much to do
4. Amount to learn
5. Need to do well (self imposed)
6. Essays, projects
7. Financial problems
8. Lack of time for study
9. Timing, spacing of assignments
10. Need to do well (imposed by others)
11. Unclear assignments
12. Worry over future
13. Forgotten assignments
14. Unclear course objectives
15. Knowing what is important to study
16. Lack of time for family and friends
17. Lack of time for own interests
18. Making choices about career
19. Learning new skills
20. Interpersonal difficulties
21. Uninteresting curriculum
22. Family crisis
23. Boring classes
24. Conflict with people you live with
25. Personal health problems
26. Problems with houses
27. Conflict with spouse, partner
28. Loneliness
29. Peer pressures
30. Conflict with college system
31. Conflict with peer(s)
32. Home sickness
33. Conflict with lecturers
34. Sexual problems

C: 3, 8, 9, 10, 11, 17
E: 1, 9
M: 1, 4, 9
S: 3, 5, 7, 9, 10, 12, 20, 25, 28

Appendix C, interviews:

Interview C:

Normal study was not an issue for C, he kept the balance between work, life and study pretty well. The problems came during his internship. These new problems are harder to cope with, for his peers as well. Planning became a major issue and time for himself got pushed out of the equation, causing an imbalance in his life. This in turn caused enough stress to build up that C experienced a burnout. Another issue that studies/colleges/universities should pay more attention to, is proper communication. According to C's experience, good communication is essential in balancing study and life. When the schedule and the study-load besides planned lectures are known, it is easier to keep a balance between study and life. An app might also help in such a situation, by showing an overview of what time is spent on, it might be easier to figure out to what other activities he can say 'yes, I can' to and which to decline.

Interview E.

What is most surprising in the thoughts of E about the relationship between study and student-life is that students can use this time to figure out how to make such a balance. While this may be very stressful at times, it is a time where there are less serious consequences, if you fail to do so. Although the Binding Study Advice (BSA) may have had somewhat of an impact on this, as it now ends up making consequences in the first year a bit more serious. Further research is needed, if this is actually the case.

Study-life balance is highly important, giving your brain different activities may end up recharging the brain. Especially when doing social activities this was noticed by E. As E always makes sure there is some time scheduled for living life, achieving balance goes relatively well. This does not mean no stress, as E experienced stress too. E also learned from her parents, if work is the only thing you do, it might make you collapse.

An app that just manages a day will be very unhelpful. But an app where it would show how much energy goes to what, kind of like a reflection might make figuring out a balance easier. Thus, making life less stressful. Although that might only be the case, if it is filled in truthfully.

Interview M:

M stance on maintaining a well-balanced study-life is making a good to do list. Noting down what has to be done and what is less important, may make managing study-life a little easier. Even though it might also have the opposite effect, because the to-do list scares you. What negatively impacts study-life balance are exams and time pressure. As noticed by many peers of M.

When stressed it is good to have a well-developed support system to fall back on, according to M. A fresh perspective may allow you to fall back a bit, decreasing stress and may give the ability to tackle the problem from another angle.

M's most important strategy is to always keep weekends free, those days should be relaxing, so your brain can reload for next week.

Interview S:

Subject S is an international, suffering from some mental health issues. As such his answers were of a different perspective. In the years S figured that if he had a stable schedule, including sport, study and social activities it was manageable. But if the workload was too much, it could start a negative cycle, worrying about finances and guilt around not spending the time studying. The opposite could also happen and when he sticks to his schedule, thus balancing study-life well, he would function well and not be stressed. This is a good example on why balance is so important.

Another very important stressor, that natives do not really encounter, is the need to try and fit in, because racism, anti-international and being harshly judged for every small action, still

happen. Although finding a community of friends can waylay some of this pressure, it does not make studying in a very different country any easier.

So, in a precarious balance, stress comes from both the life and study side. Scheduling is key, as an individual. S also suggested that some kind of personal assistant that is able to track the balance between life and study, could be very useful. As figuring it all out for yourself, is also really hard.

From these interviews I gathered that a general way to cope with stress and make life more balanced, was to make sure there was time included for just yourself and scheduling activities, including the time for just you. Scheduling could possibly be done through an app. Even when busy, making time for friends or family is useful to clear the mind and decrease stress.