

Supporting the mental well-being of physicians: An interactive coaching tool for Arts in Balans

Master thesis by Jitske van Leusen

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you can't stop the waves, but you can learn how to surf

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Preface

This thesis is the last project of my Master's degree in Design for Interaction at the faculty Industrial Design Engineering at Delft University of Technology.

This thesis described the entire design process of a coachings tool for physicians, with the aim to help physicians in finding balance. This project started with the aim to design a planner or journal, which really fits with my interests because, during this project, I've also filled at least three notebooks with all my thoughts. The outcome of the project is everything but a notebook, but it still is focussed on my main interest of design, which is helping people by designing creative solutions.

Throughout this project, I received guidance in a number of ways.

I would like to thank Gert and Arno for supervising my design project, by helping me to take a step back and maintain an overview of the project, by asking critical questions, and by providing feedback on my process, ideas, prototypes, design and report.

I would also like to thank Maarten, Milou and the rest of the Arts in Balans team for giving me an insight into the world of doctors, for your enthusiasm in helping doctors, and for the trust you have placed in me right from the start to carry out this project.

Lastly, I want to thank everyone that supported me during this thesis. From helping me with my questions, giving opinions, helping in a co-creation session to being a participants in my tests and for the support in every other way.

Jitske van Leusen

Summary

This project focusses on the development of a tool to improve the mental balance for physicians. Currenltly, 24% of physicians is experiencing burn-out complaints, while the pressure on the healthcare sector is only increasing. Arts in Balans was founded with the goal to help physicians find more balance and to coach them towards being physician that can reach their full potential.

The goal of this project was to design a coaching tool for physicians. The tool should help Arts in Balans with reaching more physicians.
In order to design this tool, it was important to examine exactly what balance is, which contextual factors play a role in physicians' experience of balance, and which values are important within the organisation, so that this could be translated into a practical tool.

The coaching tool consists of a scale and a cardset. The purpose of the scale is to help doctors become aware of their current mental balance. The cards then help them to understand what is involved in each theme, and the card helps them prepare to take action to make a step towards improving that balance.



Glossary

This project focuses on physicians in the Netherlands. However, the terminology for physicians and physicians differs in every country, the translation might be different in other languages.

Medical department
Medische vakgroep
A group of healthcare professionals who work together within the same medical specialty.

Physician
Arts
A doctor, in this thesis physician is referred to as doctors working in a hospital.

ANIOS
Arts Niet in Opleiding tot Specialist, basisarts
Physician not in training to become a specialist.

AIOS
Arts in Opleiding tot Specialist
Physician in training to become a specialist

Chef de clinique
Chef de clinique
Physician that is a medical specialist, this physician is not yet part of a medical department

Coach
Coach
Facilitator of coaching sessions. Guides the coachee.

Coachee
Gecoachde
The physician that is being coached. Receives coaching from the coach

Table of contents

Acknowledgements 4
Summary 4
Glossary 6
Table of contents 7

Chapter 1: Introduction 8
1.1 Introduction company 9
1.2 Assignment 11
1.3 Project relevance 12
1.4 Project scope 14
1.5 Target group 15
1.6 Project approach 18

Chapter 2: Discover 20
2.1 Literature research 21
2.2 Context factors 24
2.3 Observations 26
2.4 Interviews 28
2.5 Focus group 36

Chater 3: Define 42
3.1 Design goal 43
3.2 Requirements 45

Chapter 4: Develop 46
4.1 Co-creation towards first concepts 47
4.2 Concept ideas 50
4.3 Concept selection 56
4.4 Further development of chosen concept 57

Chapter 5: Final design 66
5.1 Final design overview 69
5.2 Use scenario 78

Chapter 6: Evaluate 80
6.1 Final evaluation 81
6.2 Conclusion 83
6.3 Discussion 84
6.4 Recommendations 85

Reflection 86
Statement on use of AI 87
References 88
Appendix 92

1.

Introduction

This chapter introduces the company and explain the project by outlining the relevance, scope, target group and approach.

1.1 Introduction company

How it started

Arts in Balans is a company that aims to help Dutch physicians reach their full potential in the complex and challenging work environment. The company was founded by Maarten and Milou in 2020, during the COVID-19 pandemic, when Milou offered to have a conversation with physicians to get things off their chest. In doing so, they realised that there was quite a lot of demand.

Maarten is an Intensive Care Specialist and Acute Internist, and in addition to running Arts in Balans, still works at the hospital himself. Milou has a background in organisational science and has worked in the business world for years. With these combined backgrounds, they recognised areas for improvement and saw opportunities to support physicians in the complex world of working as a physician in a hospital.

Mission and vision

The goal of Arts in Balans is to help physicians function at their full potential while maintaining balance. They illustrate this idea with the statement that nobody wants an overworked physicians at their bedside or that of a family member. While they started with only coaching sessions for physicians, they are currently offering multiple types of support services

The Arts in Balans logo (Figure 1) symbolizes finding balance as a physician, and the organization's slogan: "You can't stop the waves, but you can learn to surf."

Arts in Balans

Figure 1: Arts in Balans Logo



Figure 2: Webpage of Arts in Balans

Coaching

To help physicians find balance, Arts in Balans began by offering coaching. Coaching is a method where a coach and coachee have a one-on-one interaction consisting of conversations and exercises in order to strengthen the coachee's personal resources. Personal resources are psychological skills that individuals possess, including psychological capital, self-compassion, and psychological flexibility (Solms et al., 2019). Because of their expert background in the healthcare topic, the coaches of Arts in Balans can help physicians in this specific context.

Current portfolio

Arts in Balans is not only focusing on coaching sessions but also offers workshops and assistance during the job application process (Figure 3)

They have three other coaches who are working for Arts in Balans as well, all with a background as a physician. One of the most recent developments is the launch of a final-year project to develop a planner or journal for physicians, designed to help them find a better work-life balance.

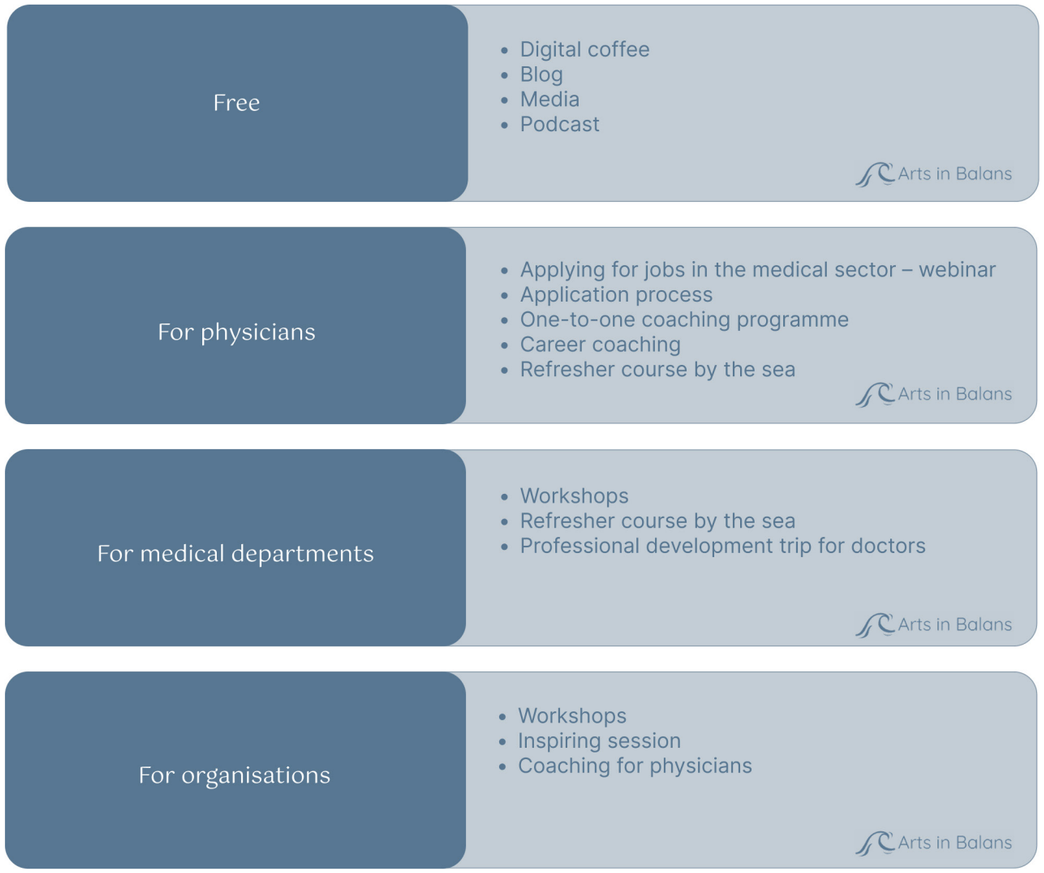


Figure 3: The current portfolio of Arts in Balans

1.2 Assignment

Arts in Balans set out a graduation assignment with the aim of expanding their portfolio to include a planner or journal that helps doctors with finding balance. Currently, the focus of Arts in Balans is primarily on coaching, workshops and other sessions. This assignment was set with the aim of reaching more physicians with their insights and knowledge, based on the idea that coaching may not be the best approach for every physician, but that the goal is to offer multiple ways to help physicians find balance.

The initial brief, Appendix C, stems from the idea of designing a planner or journal, in the first phase of this project, this has been loosely interpreted as designing a tool, so as not to fix the final design too early. Additionally, part of this brief involves identifying why a tool for doctors is different from one for other professions. The initial design goal is:

How can we design an interaction that support the mental balance of physicians?



Figure 4: Typical work situation of physicians.

1.3 Project relevance

Around 80,000 doctors are working in the Netherlands. Of these, 32,000 are men, and 49,000 are women. From the 80,000, approximately 60,000 physicians work in hospital settings and healthcare clinics, spread over around 30 specialisms (Ministerie van Volksgezondheid, Welzijn en Sport, 2026). Research from 2024 has shown that 26% of ANIOS and AIOS in the Netherlands were experiencing burnout complaints (Van Goor et al., 2024). Subsequently, the current workload, the staff turnover and the ageing population are also causing a higher need for healthcare (Engwirda & Raaijmakers, z.d.). The pressure on physicians is only increasing.

Burnout effects

The effects that burnout can have on a personal level include being absent from work, cynicism, leaving the profession or being replaced and a decrease in job satisfaction. These consequences of burnout are also likely to have an effect on someone's personal life (Shanafelt et al., 2003). These effects could be a long period of rehabilitation, and for some, it means that they leave the medical profession.

Burnout has significant personal consequences, it can also affect other aspects of healthcare. When a physician is unable to work due to burnout, the workload for the remaining physicians in the department increases. Furthermore, a physician working with burn-out complaints can cause a decreased quality of care, because of delayed decision making, unprofessional working behavior, an increase of costs and ultimately physicians dropping out or going on early-retirement, which increases the pressure even further for its coworkers (Dyrbye et al., 2013).

Balance vs Burnout

If burnout rates are high, and that is mainly the problem, why is it relevant for balance?
There is quite a lot of research about physicians and burnout. The scope of this project is to help them find balance, rather than to mitigate burnout or burnout symptoms. It is important to clarify the relationship between burnout and balance.
According to Schwartz et al. (2019), prolonged work-life imbalance contributes to burnout, mainly because health care workers report both professional burnout and dissatisfaction with work-life integration.

Profession of physician in comparison to other professions

The work of physicians differs from other professions in that care continues 24 hours a day, meaning that physicians have to work irregular shifts, and it is quite normal to have overtime, because the patients always need care. Figure 5 shows some of the main challenges that make the work of physicians compared to other physicians.

As healthcare is always needed, but demand is also growing, whilst physicians are already under considerable pressure, it is worth considering how doctors can be supported so that they can practise their profession to the best of their ability.

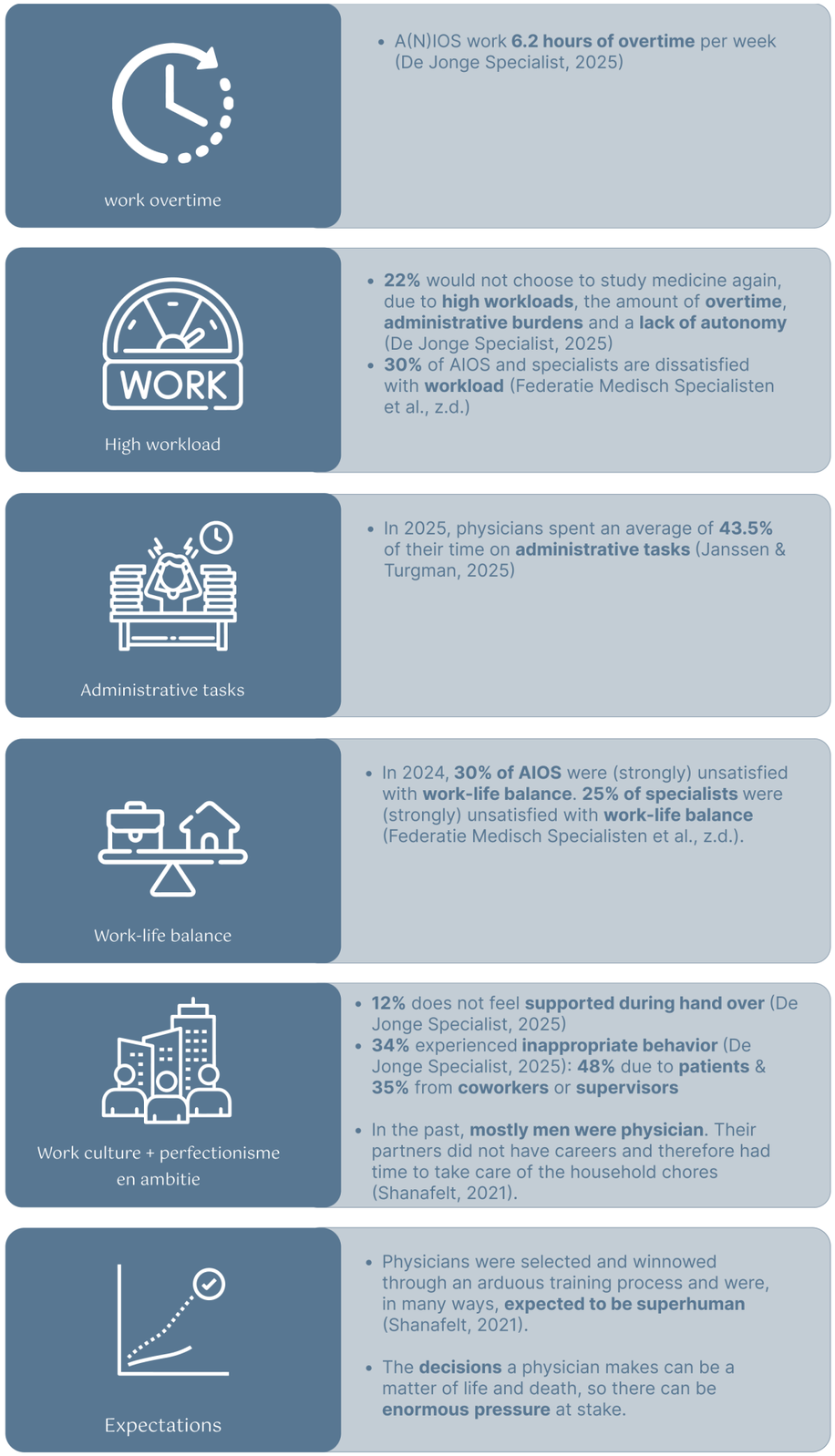


Figure 5: The aspect of working as a physcian

1.4 Project scope



Figure 6 : Example of the working context of physicians

Target group:
ANIOS, AIOS and medical specialists.

Context:
Physicians working in hospitals

Locationgroup:
The Netherlands

Design criteria:
A tool that Arts in Balans can add to their portfolio

Goal
Strengtening the mental balance of physicians.

1.5 Target group

Hospital structure for physicians
The hospital is divided into several medical departments, each consisting of a group of physicians. A department might, for example, be gynaecology, oncology or paediatrics. Each department is run by several medical specialists, who are the most medical specialists in the department and therefore hold responsibility.
The medical specialists in the department also make decisions about the department together, or they do so in collaboration with the hospital board. Due to the structure of the roles and responsibilities, the department works in a strongly hierarchical manner

Physician career structure
The target group for this project are physicians working in hospital settings. The reason this target group is chosen is that it matches the main client base of Arts in Balans.
The structure of the medical profession and the names of its roles vary in every country. In the Netherlands, doctors working in hospitals can be identified by the following terms: ANIOS, AIOS, Chef de Clinique and medical specialist. Figure 7 shows the order of functions, and because 'Chef de Clinique' is an intermediate role that not everyone holds, it is shown in light blue.

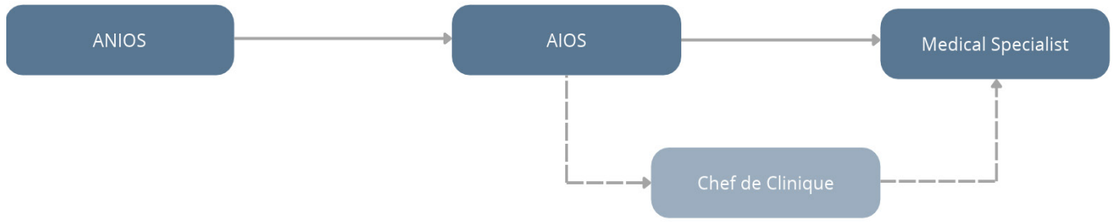


Figure 7: The aspect of working as a physcian

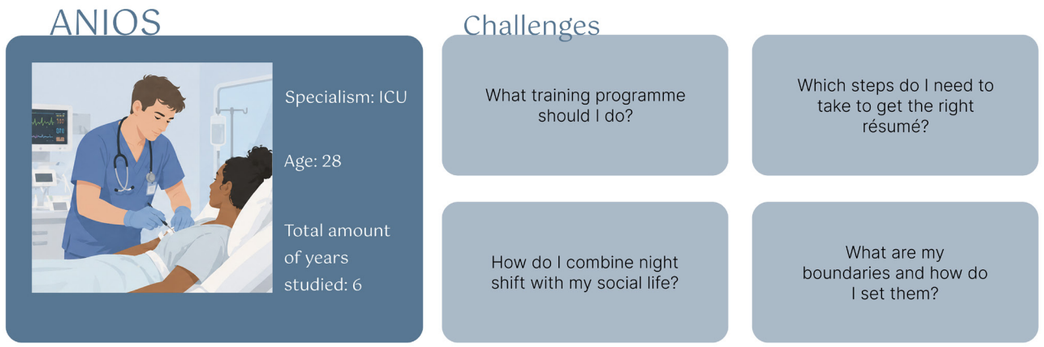


Figure 8 Persona ANIOS, image generated with ChatGPT

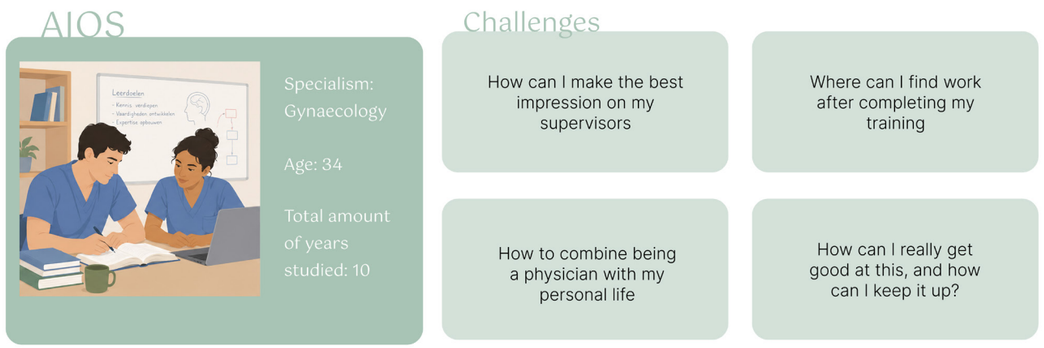


Figure 9: Persona AIOS, image generated with ChatGPT

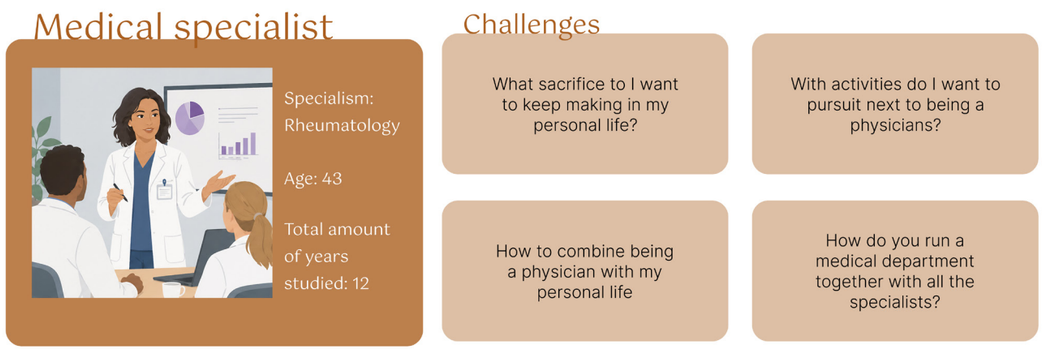


Figure 10: Persona medical specialist, image generated with ChatGPT

ANIOS

To become a physician, it is first necessary to complete a bachelor's and a master's degree in medicine. After the completion of both studies and the beginning of professional practice in a hospital setting, the starting function is ANIOS (Arts Niet in Opleiding tot Specialist). An ANIOS functions as a practicing physicians in a medical department, operating under the supervision of a specialist. ANIOS frequently rotate through different departments and different hospitals for shorter periods in order to gain experience in a variety of areas.

There is generally a shortage of ANIOS, which makes it easy to find work as an ANIOS (Basisartsenonderzoek Capaciteitsorgaan Biedt Aanknopingspunten Voor Meer Waardering en Erkenning Anios | de Jonge Specialist, z.d.).
The term 'ANIOS' is under discussion because the job description focuses on what you are not; as a result, the terms 'junior doctor' or simply 'doctor' are increasingly being used instead.

AIOS

The following stage in a physician's professional career is applying for an AIOS function. AIOS stands for Arts In Opleiding tot Specialist. During this phase, a physician is in training for a medical specialism. The scarcity of AIOS places can present challenges for ANIOS seeking to secure one, with intense competition for limited opportunities. The AIOS training programme is typically four to six years in duration and is frequently disseminated across multiple hospitals.

After the successful completion of their specialist training, AIOS are required to seek employment as a medical specialist because they have to apply for a function as a specialist. There are two possible pathways for those who want to pursue a career as a medical specialist. Firstly, the position of Chef de Clinique can be taken up, and secondly, there is the option of becoming a medical specialist within a department.

Chef de Clinique

Chef de clinique is a physician that is fully trained as a specialist. However, the Chef de Clinique function is not yet a medical specialist, but they are also no longer in training. The contracts for chef de clinique function are usually short-term.

In this function they sometimes have to carry out tasks that carrying out tasks that the medical specialist does not want to do. Whilst this provides experience, it also leads to uncertainty regarding the workplace.

Medical Specialist

Medical specialists have the highest level of training and they therefore have the greatest responsibility within the department. As a medical specialist, you will typically have completed 10 to 12 years of training. Medical specialists work within a team comprising several medical specialists. The most difficult medical decisions may be taken by this team, though this varies from hospital to hospital.

1.6 Project approach

This goal of this project is to design a tool that can be used as a coaching tool. For the development of this tool, the double diamond approach is followed, with the focus on the design of the interaction. The double diamond consists of two main diamonds (Figure 11). The first diamond focuses on the problem analysis, where explorative research is done to understand the working context, to research the current approach of Arts in Balans to be able to define the design goal. The second diamond consists of the design phase, where an iterative design process is used, where concepts and prototypes are developed and tested for the development of the final design.

Discover
The discovery phase uses a mixed-methods approach, multiple research steps are used to address different research questions. The methods used in the discovery phase are a combination of literature research and explorative research, including observations during a coaching session and a workshop in the hospital, interviews with physicians and a focus group with the employees of Arts in Balans.

Define
During the define phase, the insights from the previous phase he insights for the Discover phase are analysed, to be able to form a design goal, a design vision and to make a list of requirements for the design.

Develop
The Develop phase consisted of multiple steps: A co-creation session for initial ideas based on the all the insights from the previous phase. Three ideas were selected from the co-creation session. These three ideas were further developed in three concept ideas, to be able to select a final concept. This final concept was refined through three iterative cycles, with each iteration incorporating feedback from user testing from the previous prototype. This process resulted in the final prototype that was taken forward to the next phase.

Deliver
This chapter presents the final design, the interaction and the use scenario. The deliver phase consisted of an evaluation of the final concept with physicians. After the evaluation, some recommendations were made for further development of the design.

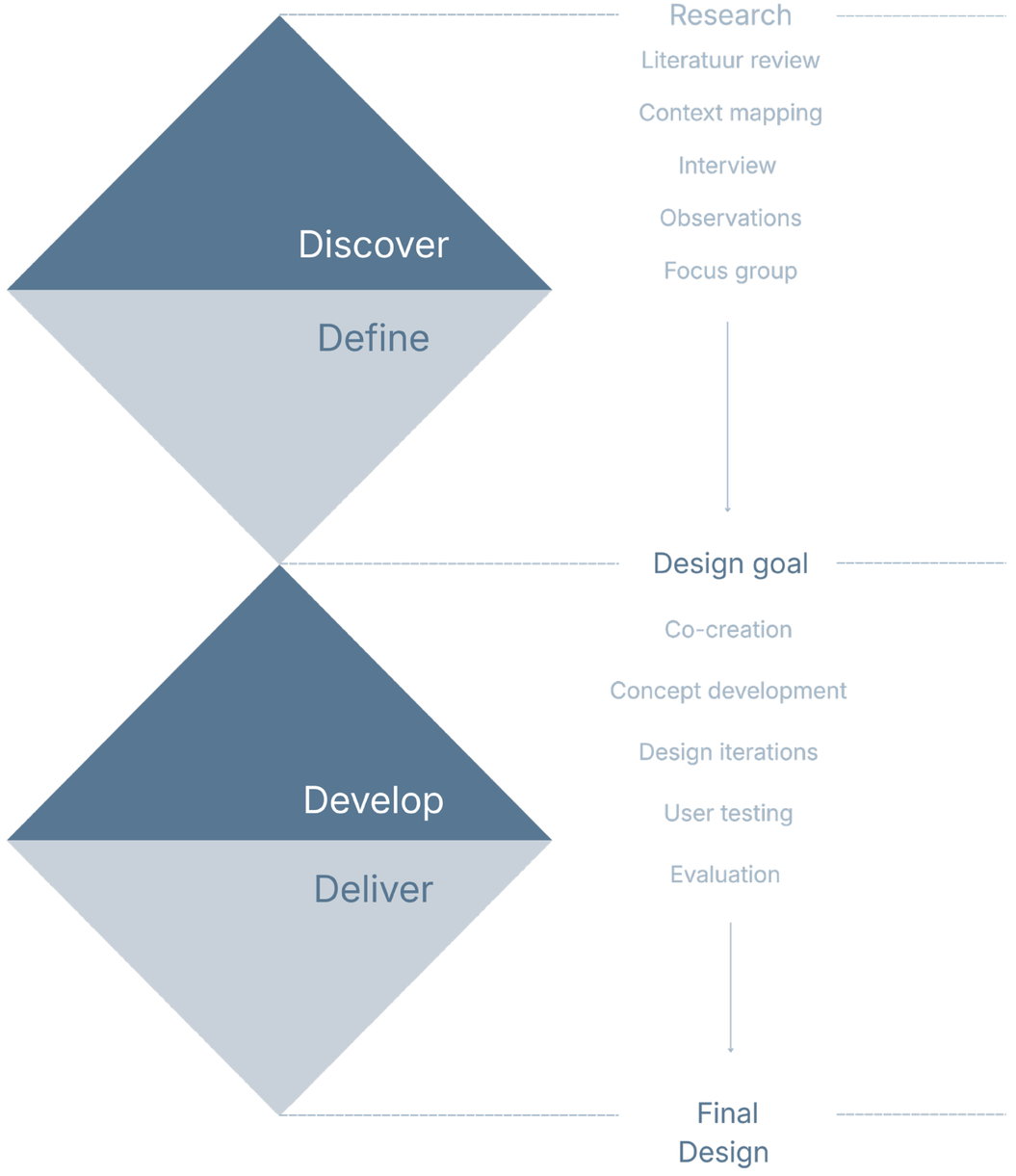


Figure 11: Project approach

2.
Discover

This chapter explores the coaching context through a combination of literature research, observations, context mapping, interviews, and a focus group. The aim is to understand existing coaching frameworks, context factors of physicians, and values for the design.

2.1 Literature research

Research Questions

RQ1: What is the definition of balance?

RQ2: Which existing coaching framework can inform the design of an interactive coaching tool

Mental Wellbeing

The previous chapter mentioned that there are many doctors in the Netherlands who are currently experiencing symptoms of burnout. Therefore, iimproving the mental health and mental wel-being is the goal of this project. Mental health is described as a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn and work well, and contribute to their community (World Health Organisation: WHO, 2025).

This matches with the goal of Arts in Balans, which is to facilitate coaching in order to help physicians to reach their full potential as physician, by being able to cope with the stress of the work and their personal life, to realize their ability as physicians and to learn and work well and contribute to their community.
The goal is therefore to improve the mental well-being of physicians by improving the mental balance.

General definition of balance

A situation in which **different things** exist in **equal, correct, or good amounts** (Cambrigde Dictionary, z.d.).

This definition of balance explains that balance exists of multiple things, in this case multiple context factors that contribute to being in balance. Each context factor has a specific amount, in this project that is the impact that a contextual factor has.

Mental balance in working context

Mental balance can be well described by the Job Demands and Resources model (JD-R), shown in Figure 12. Job Demands are factors that require effort on a physiological and/or psychological level, needed to challenge an employee in their work. Job Resources are needed to either reduce the Job Demands or to help with achieving goals or personal growth and development. (Demerouti et al., 2001).The JD-R model explains the relationship between different working factors that are experienced as a demand or as a resource, the demands and resources are both needed, and can be experienced as in balance. This model does not take into account the way people cope with these demands. In a later version of this theory, it is explained that personal resources also have an effect on the work outcome.

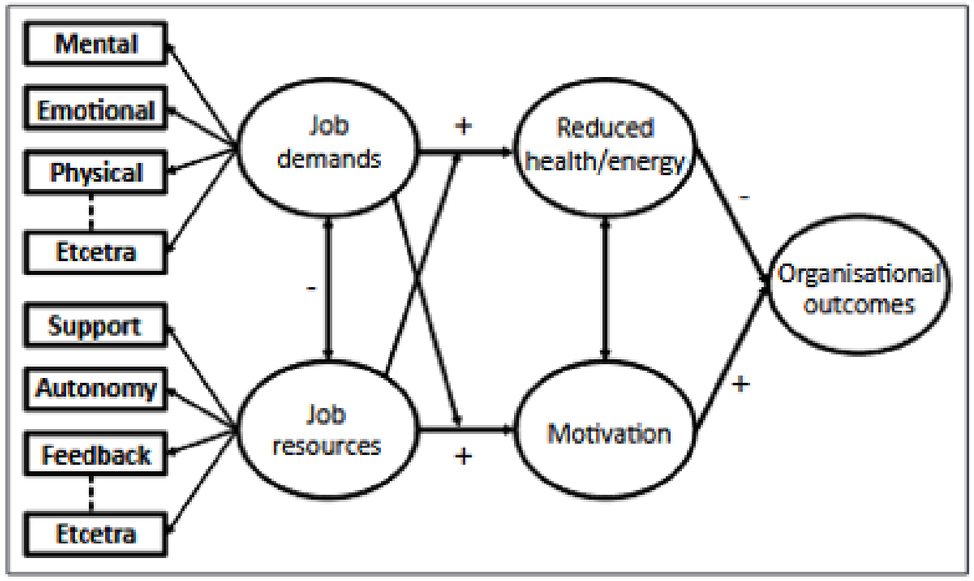


Figure 12: Job Resources and Job Demands model, from Demerouti et al. (2001)

Work-life balance

Physicians' experience of balance can also spill over into their private lives, due to irregular working hours, the overtime they are required to work, and the fact that they take emotional and traumatic events from work home with them. That is why, when defining work-life balance, it is important not only to consider factors at work, but also to take work-life balance into account (Figure 13).

The work-life balance model predicts that an employee is balanced and that this has a positive influence on work-related outcomes, non-work-related outcomes, and stress-related outcomes (Sirgy & Lee, 2018).

Therefor the definition of balance is the relationship between energy demands and energy resources, where the energy demands and energy resources consists of context factors from the work and private life of a physician.

Theoretical framework for coaching

The current method of Arts In Balans mainly consists of coaching. Coaching is a method to support individuals in their career and personal development. For this development, the users have to take steps to change their behavior. Theeboom et al. (2017) state that the Transtheoretical framework can be used as an outline for coaching, they used the TTM model to create a temporal map for coaching. The TTM model consists of five stages:

1. Precontemplation: awareness
2. Contemplation: understanding and reflecting
3. Preparation: Prepare for change
4. Action: change
5. Maintenance: maintain change

With coaching, the first two stages can be combined, because the individual is already seeking help from a coach, thus they are already aware that the want to change something. In the temporal map for coaching this step is combined to preparatory contemplation described as the identification of individual and contextual factors that the individual wants to change.

The next stage is described as the phase where the coach helps the individual with their values and needs so they can develop their own goals. These goals are thus congruent with their inner values and needs.

The third stage is the planning stage, the stage that move into action. During this stage, the coaches help the individual to refine the chosen goals and to make a plan on how implement the goals.

The final stage of the temporal map of coaching consists of maintenance and termination. This stage mainly focusses on preventing relapses by creating automatic behavior that replace the old patterns.

The stages of a temporal map for coaching:

1. Preparatory contemplation
2. Contemplation
3. Planning
4. Maintenance and termination

RQ1: What is the definition of balace?

Balance contain energy demands and energy resources, from both work and private life. Both types are needed to be challenged in the work by the demands, while having the resources to deal with those demands.

RQ2:

The framework of Theeboom et all (2017) provides a theoretical lens for coaching. This framework can be used as an outline for the design and consists of four stages

1. Preparatory contemplation
2. Contemplation
3. Planning
4. Maintenance and termination

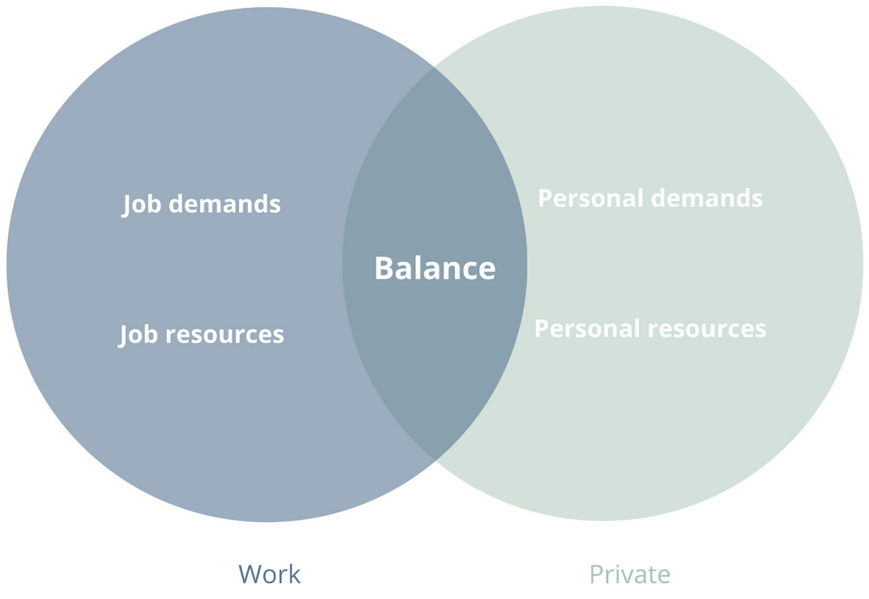


Figure 13: Job Resources and Demands combined with work-life balance.

2.2 Context factors

As described in the previous part, every profession involves aspects that drain energy (Job Demands) and aspects that provide energy (Job Resources). In addition, there can be a balance between work and private life. This part described which context factors might be energy resources and energy demands.

RQ1: What makes the work of physicians different from other professions? Why is a tool specifically designed for physicians needed?

Approach (Figure 14)

To answer the research questions, factors are identified that are relevant in the work life of physicians. To identify these factors the 5W1H method (Van Boeijen et al., 2014) is used to gather potential energy demands and energy resources. The 5W1H consists of What, Why, When, Who, Where and How questions. These questions are answered different sources about the profession of physician, for example, by reading blog posts, listening to podcasts etcetera.

All the context factors are clustered into six different clusters and the overview of factors and clusters is shown in Figure 15.

Workrelated: Physical

Workrelated: Mental

Workrelated: Social

Workrelated : Personal

External factros

Private life

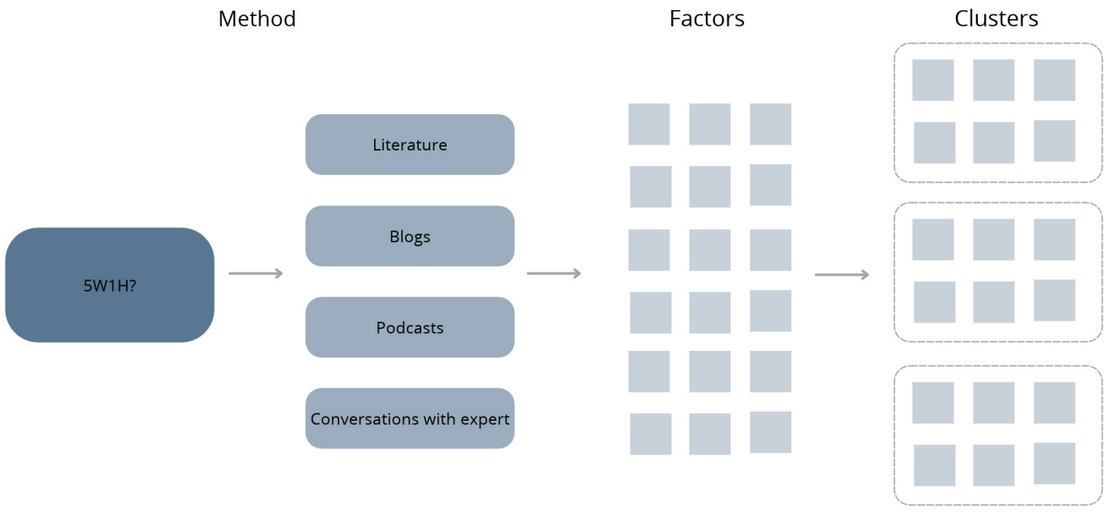
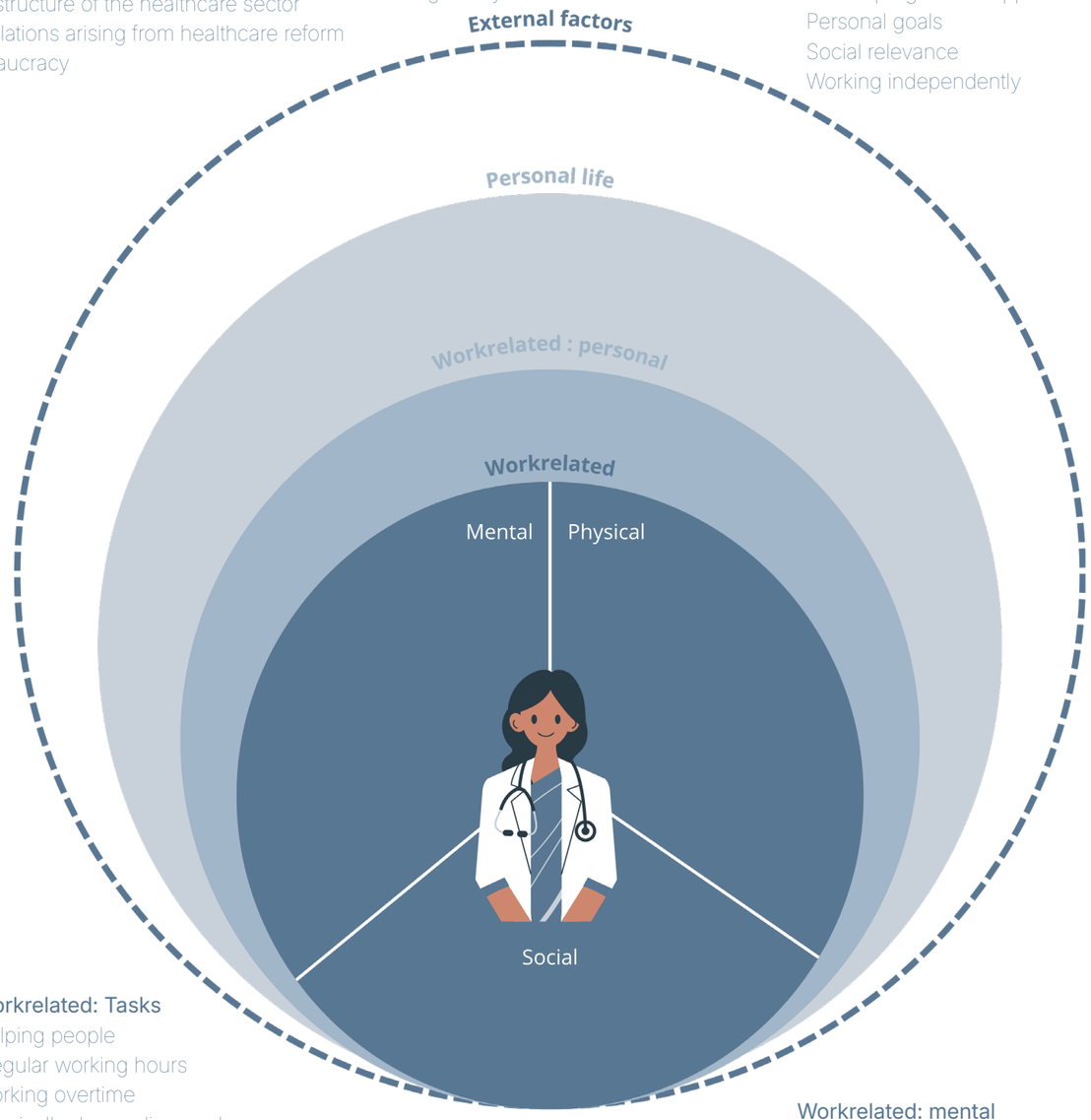


Figure 14: Example of workshop

External Factors
ICT
AI
E-health tools
The influence of social media
The structure of the healthcare sector
Regulations arising from healthcare reform
Bureaucracy

Personal life
Time with family/loved ones
Time with friends
Time for hobbies
Relaxation
Exercise
Looking after yourself

Workrelated: Personal life
Autonomy
Ambition
Specialisation
Career progression opportunities
Personal goals
Social relevance
Working independently



Workrelated: Tasks
Helping people
Irregular working hours
Working overtime
Physically demanding work
Staff shortages
Administrative tasks
Education (teaching)
Scientific research
Further training
Positive treatment outcome
Negative treatment outcome

Workrelated: Social
Working as part of a team
Receiving supervision
Being a supervisor
Appreciation from colleagues
Interaction with colleagues
Interaction with patients
Working with different generations
Working atmosphere
Expectations of the department

Workrelated: mental
Appreciation from patients
Satisfied patient
Dissatisfied patient
Workload
Emotionally demanding tasks
Moral satisfaction
Not wanting to make mistakes
Always having to prove yourself

Figure 15: Example of workshop

2.3 Observations

This section describes the exploratory observations made. The observations aim to gain a better understanding of what Arts in Balans does, how they interact with physicians, and to form an even clearer picture of the world of the physicians. In this chapter, there are two types of observation activities described: observations during coaching sessions and observations during a workshop in the hospital given by Arts in Balans (Figure 16).

Research questions

RQ1: What is the Arts in Balans approach?
RQ2: What is the interaction between the coach and the physician, during a coaching session?

Research approach

The approach for both observation sessions is the fly-on-the-wall method. This method was used not to disturb the sessions and to be able to see how these sessions and workshops are actually going without interfering. Notes were taken during these sessions to find answers to the research questions (appendix B)

Execution

Coaching session

Two coaching sessions were observed. The two coaching session were both coached by another coach of Arts in Balance. One coaching session focussed on a job application for a AIOS function, the other session was more focussed on helping with specific aspects and challenges of the current job of that physicians. The researcher was present in the online meeting, with the microphone and webcam turned off.

Workshop

The workshop was given in the Amphia Ziekenhuis in Breda by Maarten. There were 20 to 25 participanting physicians, either ANIOS, AIOS or medical specialists. The workshop itself had a duration of one hour during the lunch break of the physicians. The goal of the workshop was to provide insights about balance and to let the participants think about some aspects of balance and how they could improve these aspects.



Figure 16: Example of workshop

RQ1: What is the Arts in Balans approach?
Both during workshops and coaching it was noticeable that the approach of Arts in Balans focusses on both challenges of the work, but also hightlights the positive side, for example the by asking about the strenghts of physicians. They approach this by asking critical questions and by providing tips and tricks that can help with finding better mental balance.

Providing care is always the highest priority. During the workshop, multiple physicians were called and had to walk out of the room. This demonstrated that providing care is always the priority, and that the work culture also allows physicians to pursue this. For physicians, this means that they always have to be ready to work.

RQ2: What is the interaction between the coach and the physician, during a coaching session?
The interaction between the coach and coachee is open and friendly. The coach listens carefully to what the coachee has to say. The coaches try to read between the sentences and try to translate what the coachee is actually saying.

During the coaching sessions, the coaches ask critical questions designed to encourage self-reflection. However, they also help by giving compliments and try to guide the physician in what steps to take to be able to improve their current situation.

2.4 Interviews

The initial design goal states that the final design should support the physicians in improving balance. The goal of the interviews is to specify what should be improved regarding balance for physicians. A semi-structured interview (Appendix D) was conducted with the goal of finding out more about how they are currently experiencing balance and what aspects of the job play a role in the experience of balance.

First, the specific situation of this physician is investigated, as a balanced situation also depends on personal circumstances. To determine this, it is useful to know, for example, at what stage of their career they are, what challenges they face, what steps they wish to take, and what a typical working day looks like.

The next part of the research focuses on which contextual factors play a role in the balance situation of the physician. This includes identifying the factors that contribute to balance, as well as those that make it more difficult to achieve.

Research question

RQ: Which factors of a physician's work and personal life have an impact on their sense of balance?

Research approach

Sensitizing tool

To facilitate an in-depth interview with a physician about balance, a conversation starter can be useful. Therefore, a tool is developed that is used during the interview to make the mental balance of the participants visible. The analogy of a physical scale was chosen for the conversation starter because it can translate all the factors that can play a role in their balance experience. The scale communicates a visible form of balance and can thus be used to create an overview for the participants.



Figure 17: Physicial scale with weights

The tool consists of two parts: a physical scale with wooden blocks as weights and an online part for the online interview. Figure 19 shows the interview setup.

Physical part

The physical scale was laser printed on plywood, an online vector file was used as the template. Green and red tape were added to the scale to be able to add the energy-giving and energy-draining dimensions. The contextual factors were written on coloured wooden blocks as weights for the scale (Figure 17).

Online part

The online tool was developed by an iterative process, where the contextual factors were placed into an interactive online page (Figure 18) The factors are mostly written down without a negative or positive tone, because one factor might be energy-giving for one participant, while being energy draining for another participant. The online tool was made for the interviews, so that physicians are able to see all the factors on their screen and to be able to select a factor by making it green or red.

Validation and pilot test

Before the execution of the interviews, the contextual factors were validated by two experts. An ANIOS and a nurse practitioner, who organizes trainings for physicians, both checked the factors and gave feedback on some descriptions and added some extra factors.

For the execution and setup of the interview, a pilot test was done. After the pilot test, some instructions were added in the online version of the tool to make it clearer what the participant had to do. The four steps of the sensitizing activity were added to the tool in Figure 18.

The sensitizing activity contains four steps, where participants are first asked about the current contextual factors that influence their balance. The last question of the tool is about their future scenario, what they want their balance situation to look like.

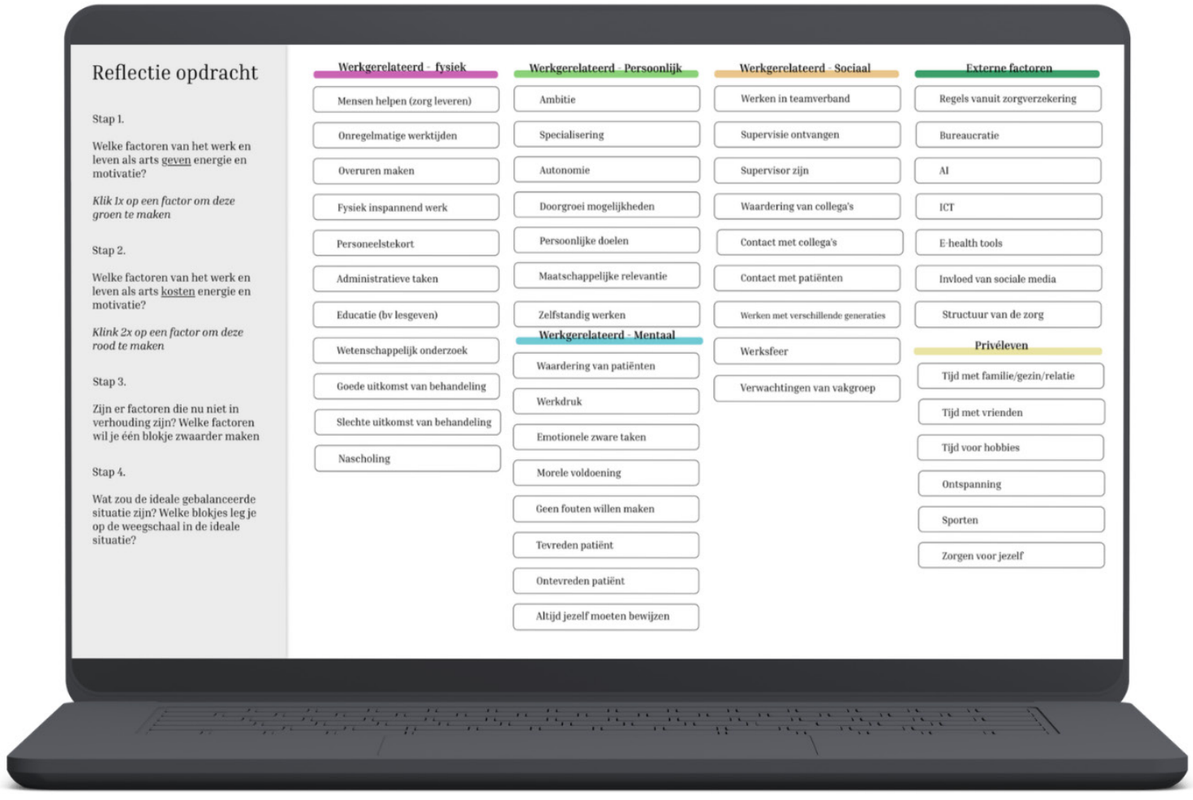


Figure 18: Physicial scale with weights

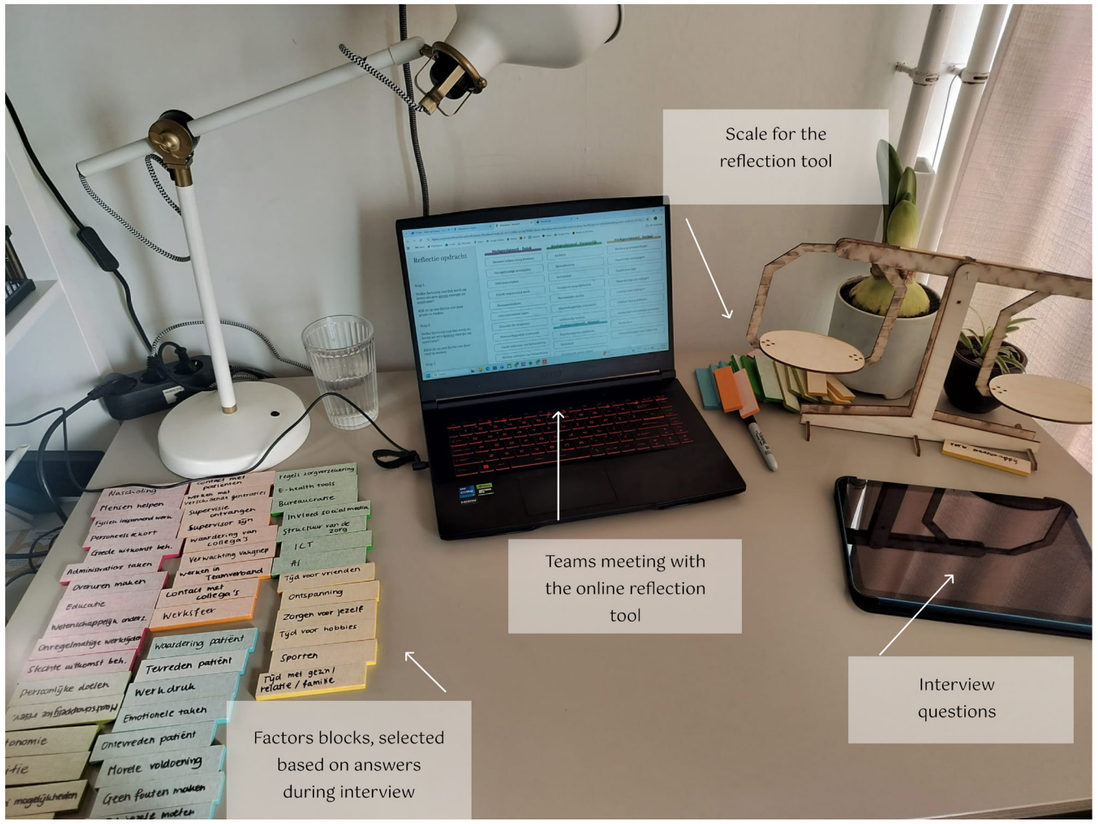


Figure 19: Physicial scale with weights

Iteration of sensitizing tool

During the first three interviews, the question about what the ideal balanced situation would be led the conversation mostly to ICT and administrative tasks and could be improved to that.

This could be an interesting insight, but as a result, other topics relating to improving balance were not covered in this question. Consequently, it appears as though other factors are being overshadowed, and since the interview lasts 45 minutes, there is not enough time to explore other topics in greater depth. For this reason, the factors from the 'external factors' group have been removed from the subsequent interviews.

Furthermore, all factors in the group's personal life were positive. However, private life sectors can also be demanding in energy, so some negative factors were added to the tool. The factor 'employment prospects' has also been added (Appendix 1).

Data: statement card analysis

Figure 21 shows an overview of the approach from the data to the themes. All interviews were transcribed and placed into Atlas TI for the first part of the analyses.
In the interview, the participants were asked what gives them energyor what drains their energy. The energy givers can also be certain aspects of their personal life, thus it is not only job resources, but this part of the process describes it as a motivator. Aspects that drain energy are in this part, barriers. And the other group that is identified are the strategies, meaning strategies that the physicians are already pursuing that help them with certain aspects of the job.

Statement cards

The motivators, barriers and strategies were written down on statement cards, meaning that a quote is translated to a statement. In the example in Figure 19 is shown how these statement cards look, so the B on top of the card stands for barrier and below is the statement.

Clusters

The statement cards were clustered into groups, where corresponding information was clustered together with description.The next step was to look at the clusters again and to describe them in a sentence, to get a more in-depth overview of the clusters and the impact that the factors have on the balance situation. An overview of all the clusters can be found in Table 1 and Appendix E.

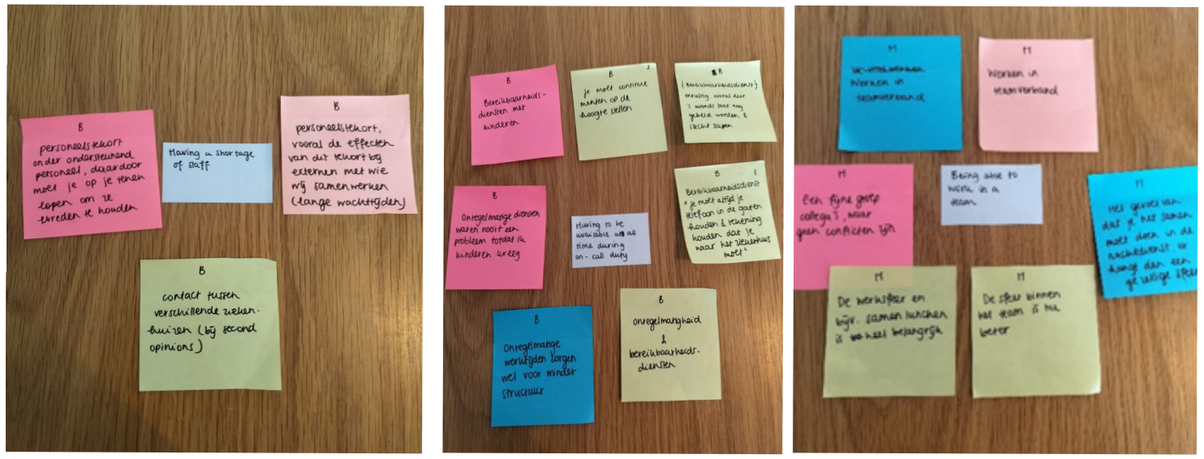


Figure 20: Statement cards

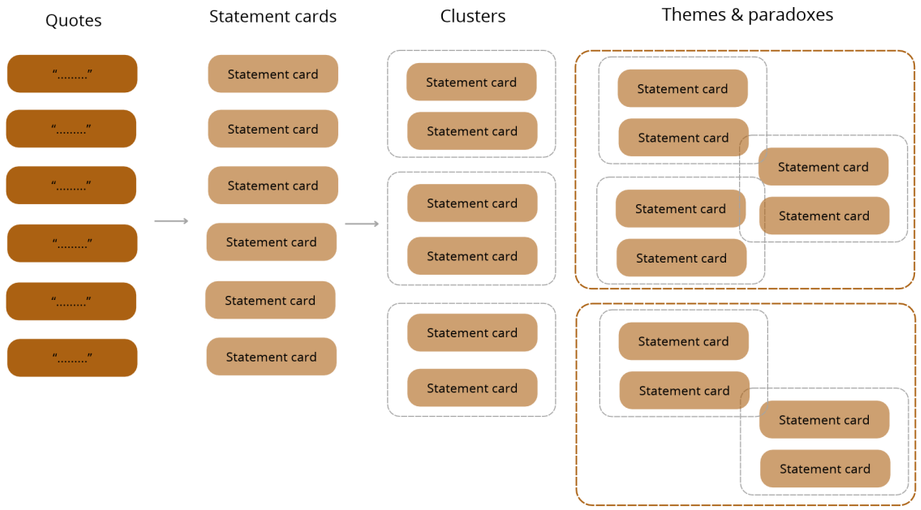


Figure 21: From quotes to themes & paradoxes.

Themes & paradoxes

What stands out in the clusters of the motivations and barriers statement cards is a clear distinction that can be made between things that are possible (being able to) and things that are necessary (having to). This is something that could be expected because of the initial selection of motivations and barriers, but it can be used as the start of the identification of the themes, if some of the clusters of motivations and barriers could be linked together. Figure 21 , and the next part describes the specific themes and paradoxes.

With this in mind, the clusters from Table 1 are clustered again into themes and paradoxes. The two paradoxes are thus a multidimensional theme, which provides a lot of energy for the physician, but a negative event within that theme can be really energy draining. The overview of clusters to themes is shown in Table 1. While the themes are one-dimensional, themes that derived from the interview.

Type	Cluster
Motivation	Being able to work in a team (social level)
	Being able to work with patients (social level)
	Being able to be a problem solver at work
	Having opportunities for other work activities, for example, working in education
	Being able to work in a challenging environment
	Having a meaningful job
Barriers	Having to do administrative tasks
	ICT that is not functioning well
	Having a high workload, mainly due to finances
	Having a shortage of staff
	Working with high workload and time pressure
	Having to combine private life with being a physician
	Having to work in a difficult work atmosphere
	Having to be available at all times whilst on -call duty
	Working in an environment with a highly demanding working culture
	Having to work with difficult patients
	Working with different generations that have different working ethos
Strategy	Getting support from social contacts
	Creating time and space for yourself
	Being aware of the things you can influence
	Determining if you are in balance
	Setting bounderies
	Being able to determine your own work hourds for on-call duties.

Table 1: Overview of the clusters.

Paradox 1:

The social aspect of the job gives physicians a lot of energy, but negative social experiences drain a great deal of energy

These social aspects are both visible in working with a group of colleagues, as in working with a patient. The most important tasks of a physician are providing care for patients, so being in contact with the patient plays a large role in this task. All participants described this as something that gives them energy in their work. However, the negative aspects, such as a team that does not function as it should, or a patient who files a complaint, can cost a lot of energy.

"I think helping people and having satisfied patients is, ultimately, very important too. If you happen to have a really happy patient, it can have a very positive impact on your whole day."

"So anyone can file a complaint and write all sorts of things about you on the internet, whilst we're not allowed to say anything about the patient."

"I've got a really lovely group of colleagues, and I'm incredibly grateful for them. We never have any hassle, never any conflicts, and we're all very much on the same page, which really helps here."

"I've been at the {hospital} since last year, and when I first arrived, the working atmosphere wasn't actually very good. There was quite a lot of pressure at work, which meant that everyone tended to work in their own little silos, keeping to themselves, just getting on with their work and then going home."

Paradox 2:

The ambitious environment provides opportunities to improve yourself and your work, but not knowing what you want can be very demotivating

Working in a hospital allows physicians to develop in other areas or take on new challenges. Physicians also need to build their resumes to be considered for certain roles. This can be experienced in different ways. Working towards personal goals can be really energizing when you succeed. But not knowing what you're working towards can actually drain a lot of energy. It is also important for physicians to know what their own goals are, which goals stem mainly from others' expectations, and which goals are necessary, for example, to have a chance at a training position.

"Personal goals can be a bit stressful, but if you've set them and decided what you want to do, with a plan in place, then it's actually quite nice to work towards them. So there really are two sides to it."

"Because, as well as looking after your patients, you're also running a business together, and those are, of course, tasks that we've had to take on over the last two years. And I do enjoy that, but it does take up time."

"There are certain roles you need to take on to build up your resumé so that you can get a job in a particular field"

"Because, of course, those are often the tedious little tasks. Sure, I do them all dutifully, but that's not the sort of thing that makes you really happy, and those other things take up a lot of energy."

"I'm sometimes amazed by the fact that we're living in 2026, and the number of clicks I have to make to record that I've done an ultrasound, so that the medical department can make money from it, it's quite a lot, actually"

"Irregular working hours are just part of the job. Administrative tasks are also just part of the job and always will be. I always say that a poor outcome from a treatment is just part of the job."

Theme 2:

Dealing with negative aspects of the job

The administrative tasks and the ICT that is functioning badly, some parts of the job are taking up a lot of energy for the physician. However, they cannot be changed quickly. These are parts of the job that physicians need to deal with. What might help them is to focus on what parts of these tasks they have an influence on and which parts they don't.

"Of course, there are things in your private life that take up your energy too. If everything from my private life were included, right down to the cleaning"

"Work hard, party hard. It's a bit cynical, I know, but I do think there's some truth in it. I just really enjoy doing loads of fun things alongside my work and keeping myself busy."

"It's all part of life, of course, the cleaning, your family life, your job, and whatever else you want to do yourself. Exercising, meeting up with friends, and of course we all want to eat healthily too, so you want to cook for yourself, and trying to juggle all that is just too much."

Theme 1:

Combining private life with working life as a physician

Being a physician also influences someone's private life, in terms of social connections, family-related topics, and being able to take care of oneself. Family members also have to adapt to the irregular working hours, on-call duties and overtime that physicians work. Next to that, physicians also have to take care of themselves by exercising, cooking and carrying out household chores. Supporting physicians in creating a healthy private life can help them find balance.

RQ: Which factors of a physician's work and personal life have an impact on their sense of balance?

It is difficult to distinguish between what constitutes specific job demands and job resources. This is clearly reflected in the paradoxes that emerge from the interviews.

For example, the 'ambition paradox' is a clear source of energy for some physicians, as it motivates them to show themselves in the best light. For other physicians, however, a lack of ambition is actually a sticking point, as it leaves them less certain about where they want to go in the future.

Whether a physician is in balance, or content with their work-life balance, depends on how they experience the context factors as positive or negative, and how their resources contribute to being in balance.

Multiple physicians cancelled the interview last minute, because their work would not let them. This also shows that providing care is always the priority.

Chapter 2.5 Focus group

A focus group was conducted with employees of Arts in Balans to identify values that a more insight into the what values that the design should entail. The session explored which values are considered important by the employees, providing input the design phase. The focus group was inspired by the Value-oriented Mock-up approach within the Value Sensitive Design method, in which rapid prototyping is used to uncover insights that may not emerge through interviews alone (Pappas et al., 2024).

2.5.1 Research question

RQ: What values are important for the company Arts in Balans to provide to physicians.

2.4.2 Research approach

This focus group aims to identify and clarify the specific values that align with Arts in Balans. The structure of this focus group involves a brief explanation of what the values of a design might be, thereby encouraging participants to think beyond the superficial level of simply looking at a product.

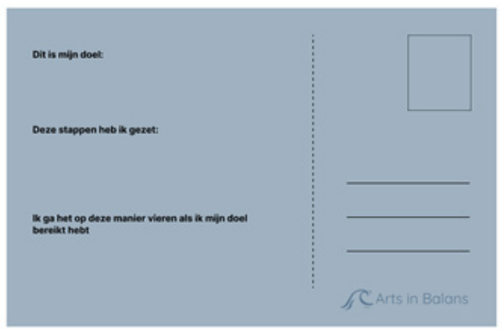
To start conversation on values, four quick concepts have been developed, each embodying different values. These ideas reflect an initial impression of the interview findings and are not yet based on the full analysis.

The concepts have been printed on A3 sheets, accompanied by a brief introduction to clarify the idea behind each concept, Figure 22. The values described have also been included on the worksheet, so that participants can refer to them and do not have to come up with everything themselves.

Concept 1:
Postcard with questions about personal goals

The postcard is delivered to the physician's house; the idea is that it is a surprise for the physician when it arrives at their house. Because it is simple to fill in, they can do this in a short amount of time, and after they fill in the three questions, they can keep this postcard as a reminder.

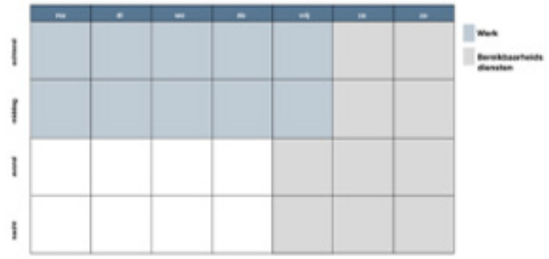
Initial values:
- Physical reminder to determine one's personal goals
- Not something that needs to be added to the to-do list
- Simple and quick
- Possibility to hang somewhere within sight, to have an extra reminder



Concept 2: Physician planner

The planner fits an entire week, including evenings, weekends and nights. The planner differs from a regular planner; it contains evenings, weekends and nights for all the different shifts.

Initial values:
- Create an overview of the balance between work hours and personal time.
- Identification of problem areas
- Possibility to plan ahead



Concept 3: Worksheat dealing with patients

This concept contains a worksheet for physicians which they can use as a reflection after they have dealt with a difficult patient.

Initial values:
- Becoming aware of what is and isn't within your control
- Reflection on performance
- Plan it yourself



Concept 4: Theme booklets

The different booklets that support physicians with different aspects. Each booklet consists of multiple exercises and stories that can help physicians with that specific challenge. The three examples on this worksheet were:
1. Physician + having a family
2. Physician + applying for a job
3. Physician + starting as a physician

Initial values:
- Inspiration drawn from the experiences of other (generations of) physicians
- Exercises related to a specific topic
- Possible to choose a certain topic that fits with own career and personal path



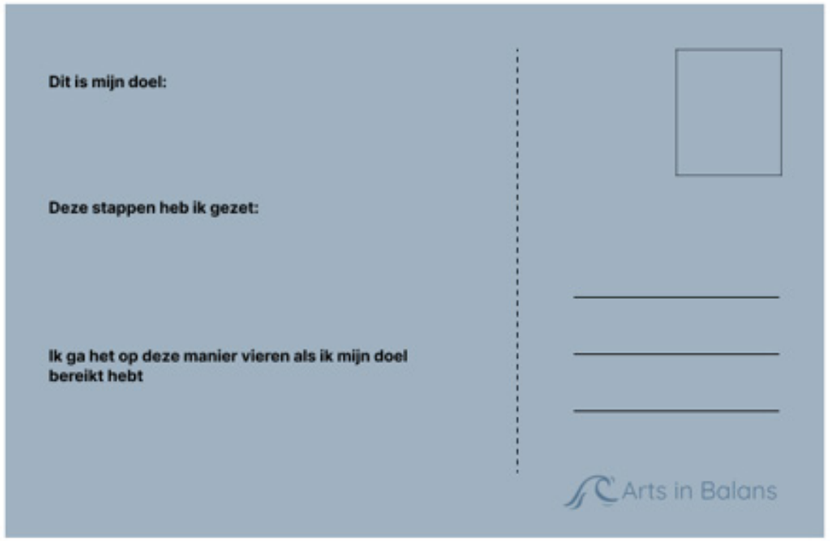


Figure 22: Worksheet example for focus group



Figure 23: Focus group

2.4.3 Execution

The participants of the brainstorming session were all team members of Arts in Balans. The team consists of Maarten and Milou (founders), three coaches (with a physician function of prior function) and three student employees (medical master students).
Participants were provided with one sheet per two people and were given five minutes to review the information presented on the sheet (Figure 23)Their input was then discussed collectively in a brief group discussion.
The final step involved the Hits and Dots method (Heijne & Van der Meer, 2019), in which participants were asked to select their three most important values and place a sticker next to each of their chosen values.

2.4.4 Data

The results of the focus groups provided an overview of values that were considered most important, based on the votes. The selection of values is presented in Table 2, prioritized on amount of votes. There were 30 values in total, 11 with votes and the values with quotes were clustered (Figure 23 & 24).

Figure 24: Filled in sheet during focus group

Value	Corresponding concept	Amount of votes
Help them build their own confidence	Theme booklets	7
Focus on what you can influence	Dealing with patients	4
Distinguish between your goals and those of others	Setting goals	4
Find a way to relax, plan and set aside time for this	Planning	3
Get to know your own boundaries	Dealing with patients	2
What makes it difficult in practice?	Dealing with patients	2
The tool helps physicians to plan	Planning	2
Show the progression of goals	Setting goals	2
Is it about you?	Dealing with patients	1
Does it match your intrinsic values?	Dealing with patients	1
Helps to create consciousness during the day	Planning	1
Providing different tools for different types of patients	Dealing with patients	1

Table 2: Values with votes from the focus group

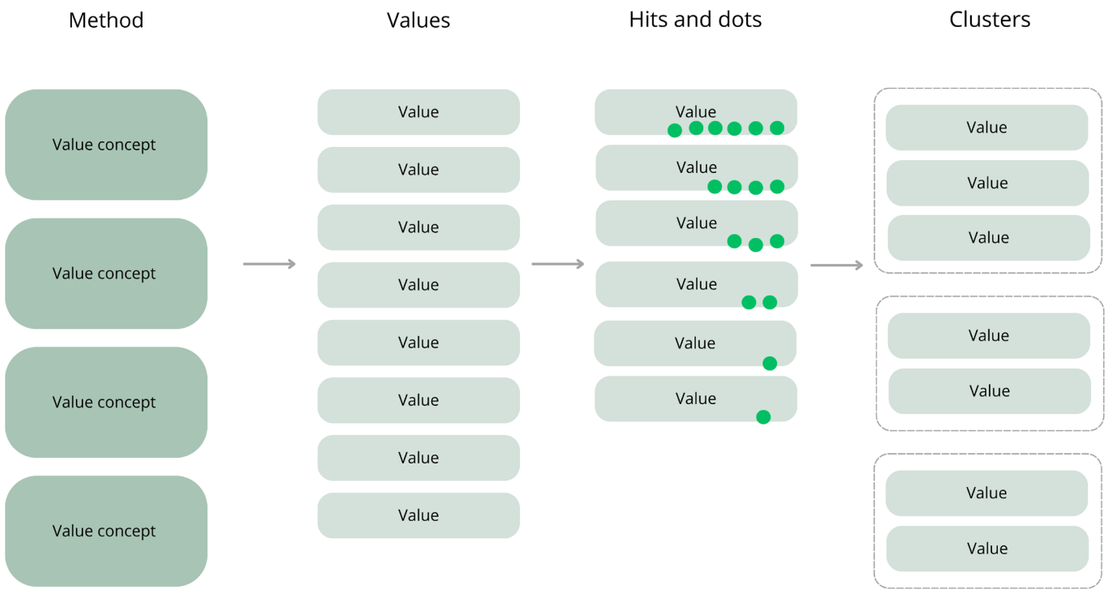


Figure 23: Approach of analysis focus group

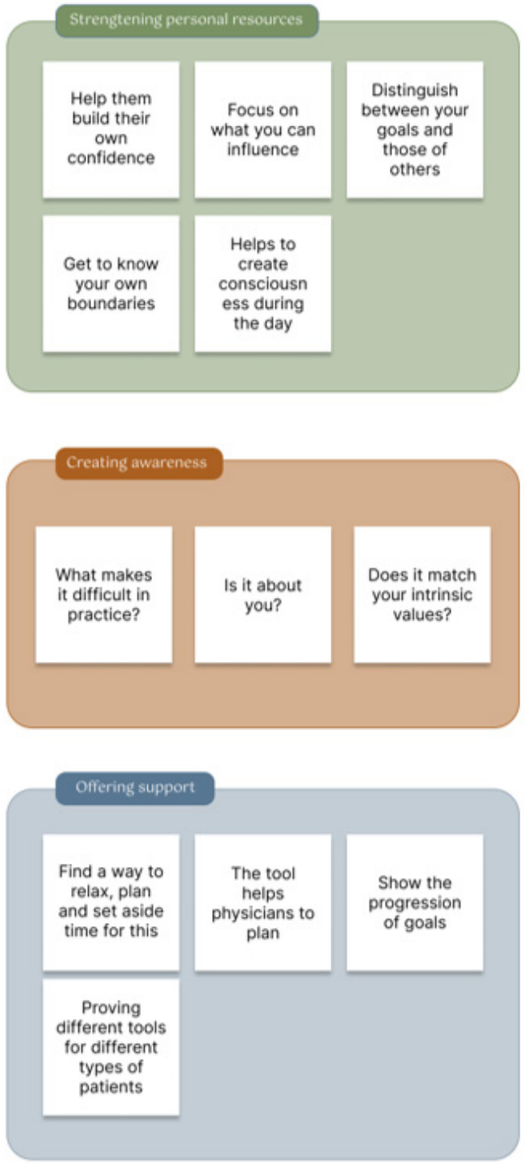


Figure 24: Clusters from values

The first value for the tool is to create awareness for physicians about their mental balance.

During the focus group, the values that derived from the concepts focussed on helping physicians gaining insights on specific topics.

The second value for the design is offering support.

This value matches with coaching. Next to that, they provide multiple values that might help physicians, for example, show progression of goal, providing different tools for different patients and help physicians with finding a way to relax and plan.

The third value is about strenghening personal resources.

This value focusses on helping physicians to deal with certain aspects of the work, where the work is not changed, but the focus is on how to deal with this work, which can be seen as strengtening the personal resources of physicians.

Discussion

During the session, the main focus was on ensuring that the participants understood the way of thinking about values. There was little time to go in depth on the written-down values; the question "why" a specific value is interesting and resonating with Arts in Balans could not be asked during the session.
However, participants found it easy to select the most important values. Out of the thirty generated values, the eleven values with votes were selected.
Using the hits and dots methods helped show employees with a non-design background that it is not possible to fit every value into a design.

3.

Define

This chapter brings together all the insights gained during the research stages to formulate a direction for the design. It is structured around the insights from the research stages, which are translated into design requirements. Finally, a conclusion is drawn by reformulating the design objective.

3.1 Design Goal

To design an interaction that improves the well-being of physicians by enabling them to gain insights into their individual mental balance and that helps them to improve their mental balance.

This design goal is built upon the insights of the focus group, where the values of Arts in Balans for the tool and interaction were determined. The main three values were:

1. Creating awareness
2. Strengthening personal resources
3. Offering support to deal with this issue.

These clusters correspond to the initial phases of the Temporal Map of coaching developed by Theeboom et al. (2017) mentioned in the literature review. The first phase, preparatory contemplation, involves identifying where change is needed, in other words, creating awareness. The second cluster to emerge from the focus group is the strengthening of personal resources, which corresponds to 'self-efficacy' in the contemplation phase, where confidence and one's own ability to bring about change are central. The final cluster, 'offering support', is more closely aligned with the 'planning for change' phase, in which the steps towards change are prepared. Together, these three steps form the basis for the design goal.



Awareness

Creating awareness about an individuals current mental balance state.



Understanding

Helping them understand what specific factors include.



Preparation

Guiding them with changing things to improve the mental balance.

Design vision

The design vision is created as a design guideline next to the design goal. Where the design goal describes what the final design should achieve, the vision is about how it should be achieved and how the interaction should be experienced.

The design vision is based on the Arts in Balans approach, observations made during the coaching sessions and workshops revealed that improving balance is not just about addressing the negative aspects, but also about emphasising what is going well, focussing on perosnal strenghts and how this can be enhanced.

This approach is in line with positive psychology Positive psychology focus on improving the mental wellbeing by shifting the focus from only solving problem to build on qualities in life, the positive aspects (Figure 25). The strengths of people also protect them from mental illness and burn-outs (Seligman, 2001).

In the design this translated by focusing on the improving energy drainers and enhancing energy resources, both sides of balance.

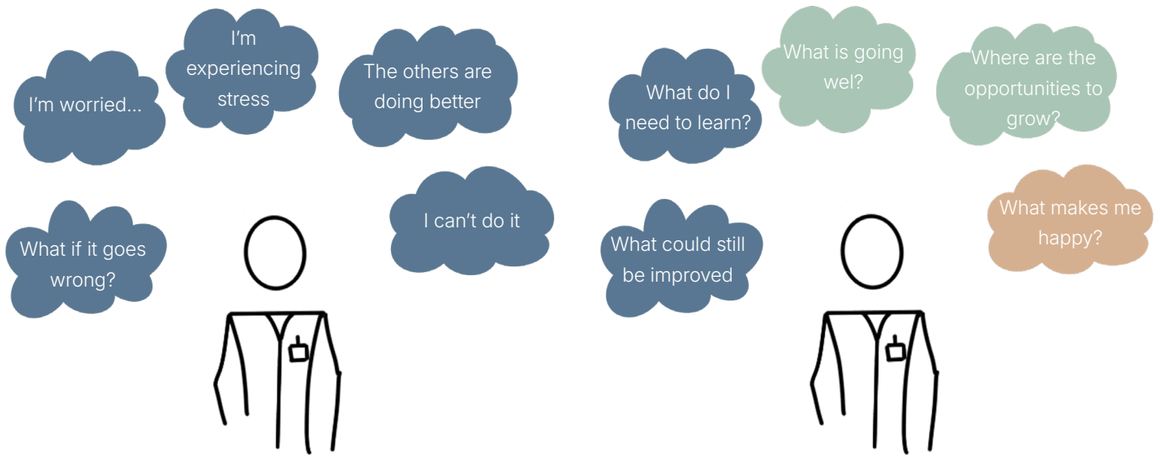


Figure 25: Illustration on the difference between traditional psychology and positive psychology

3.2 Requirements







The list of requirements is made based on the previous phases. They are grouped in different categories.

Mental balance

1. The design should enhance the mental balance of physicians
2. The design should help the physicians become aware of their balance
3. The design should help physicians with understanding more about the balance themes.
4. The design should help the physicians prepare for behavior change

Physicians

5. The design should fit into the physicians own environment.
6. The design should be used according to the needs of the physician and not be mandatory on a daily basis
7. The design should not add unnecessary workload to the physicians' daily routines, only adding targeted workload in supporting balance.

Company

8. The design should be easily integrated into the existing portfolio of Arts in Balans
9. The design should be used in an interactive setting, allowing physicians to engage with it together with colleagues, supervisors or other people, though it should also be usable individually.

4.

Design

This chapter describes the design phase of this project, starting with ideation and co-creation to generate ideas. From these ideas, concepts are selected and developed, to find the most fitting concept.

4.1 Co-creation towards first concepts

Goal

The goal of the brainstorm session is to generate a large quantity of ideas to be able to find a rich idea (Heijne & Van der Meer, 2019).

Approach

Three participants (two IDE students and one former IDE student) participated in the co-creation session that lasted one and a half hours.
The brainstorm session consisted of several parts for generating ideas and iterating on the generated ideas. First, a brief introduction was held to introduce the topic and the definition of balance for this project to the participants. The session consisted of three parts: first, a brainstorm with four how-tos (Van Boeijen et al., 2014), next, a clustering session of the ideas from one how-to; from these clusters, ideas were selected with the hits and dots method; and finally one round of brainwriting was done to iterate on the most promising ideas.

1. How-tos
Before the session, four how-tos were formulated by the designer. All four how-tos focused on a different aspect the design should include, meaning the design should combine different aspects from the ideas generated in the brainstorm (Figure 26).

1. How can you inform physicians on their personal energy drainers and energy sources?

2. How can you help physicians in dealing with these energy drainers and energy sources?

3. How can you demonstrate to physicians that these energy drainers and energy sources apply over a longer period of time?

4. How can you make the design fit with one's personal mental balance situation?

2. C-Box
Once each participant had contributed to each How-to, all the ideas for each HKJ were grouped together in a C-Box. In this C-Box, as explained by Heijne & van der Meer (2019), the X-axis indicates whether an idea is 'common' or 'original', whilst the Y-axis indicates whether the idea is 'easy to implement' or 'difficult to implement' (Figure 27 & 28). This allows for the selection of ideas that are original but also feasible to implement.

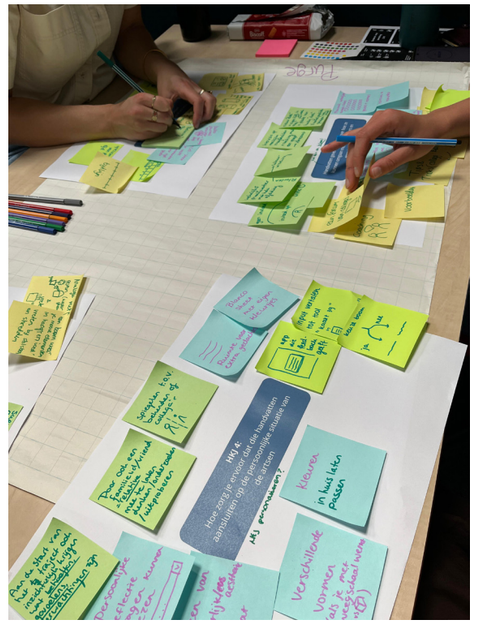


Figure 26: Brainstorming on how tos during the co-creation session.



Figure 27: Placing ideas in the C-box during the session

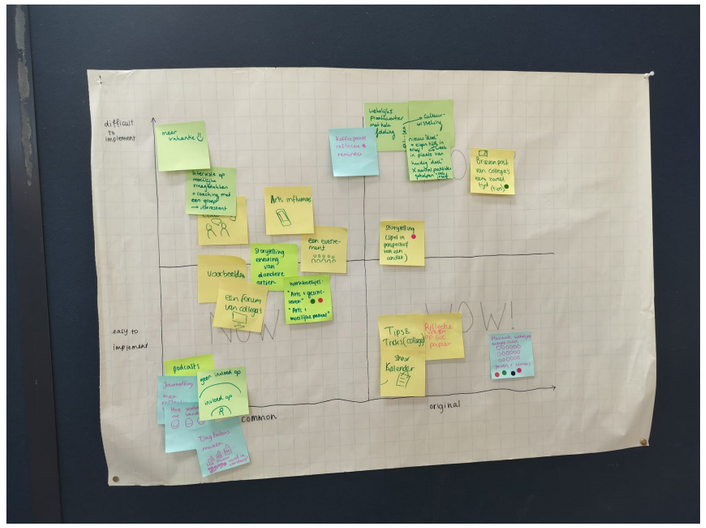


Figure 28: one of the C-boxes from the session

3. Hits and dots
Next, the 'hits-and-dots' method is used to vote on the ideas that best fit the design goal (Heijne & Van der Meer, 2019). Each participant got three votes for each to vote on the ideas in one C-box.
4. Brainwriting
As the final step of the brainstorming session, a short round of brainwriting was conducted, during which each participant chose two ideas and spent a further three minutes brainstorming them to see how these ideas could be developed further or whether, for example, any interesting variations could be devised (Heijne & Van der Meer, 2019) (Figure 30).

Analysis

After the creative session with the students, a selection of eight ideas was made. These eight ideas were then analysed for relevance for this project. Some of the ideas were discarded because they did not fit the assignment and context of Arts in Balans. The other ideas were analysed and some aspects were combined, in order to select the three most promising concepts, that were interesting to develop and to investigate in the next step.

Results

The outcomes of the co-creation session were all photographed and used to take notes on what the ideas entail and whether, for example, any ideas could be combined (Figure 29). An overview of all the results and notes from the co-creation sessions can be found in Appendix G.
From the eight ideas, the three ideas that fitted best with the design goal were selected for further development.

Three ideas were selected to investigate the interaction and to be developed into concepts. The selection was based on which ideas fitted best with the design goal and the portfolio of Arts in Balans.

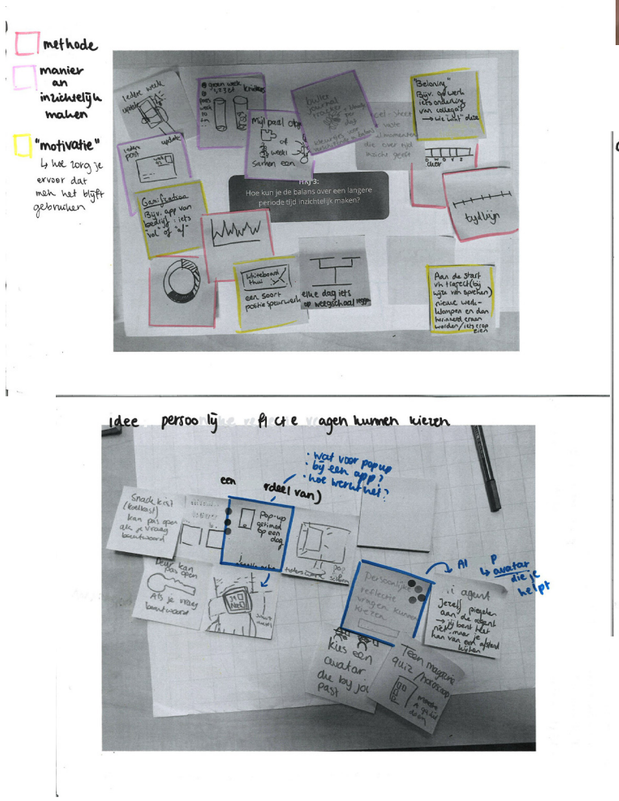


Figure 29: Example of analysis



Figure 30: Braindrawing



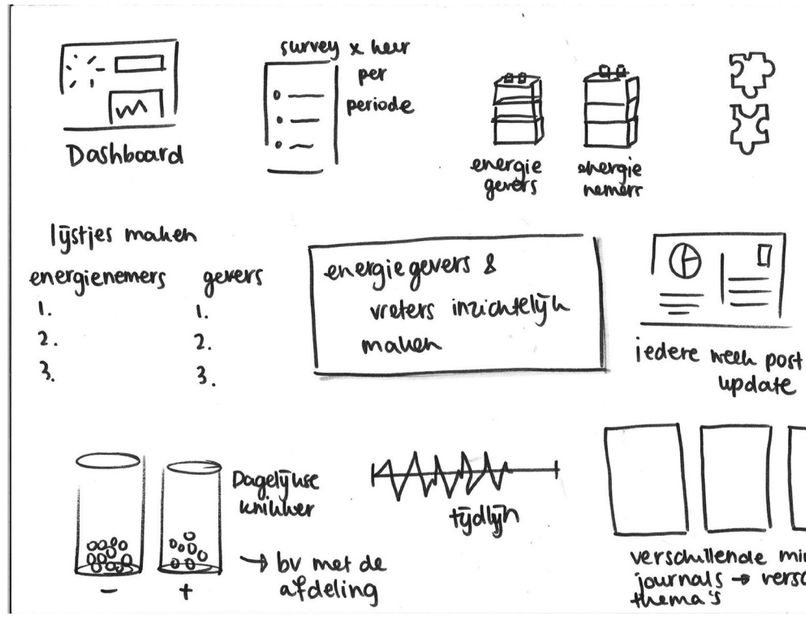


Figure 31: Ideas from brainstorm

4.2 Concept ideas

Concept idea 1: Balance pop-up



Interaction:

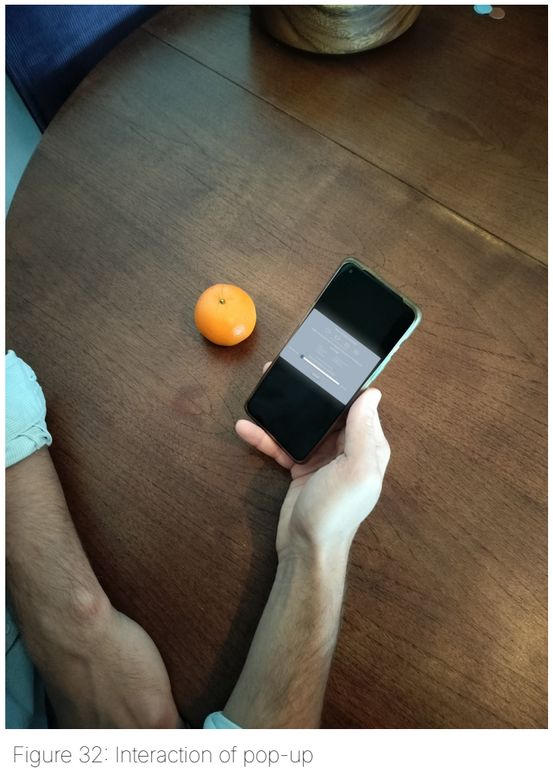
The app provides a simple and accessible way to regularly reflect on their well-being. Each day, the user receives a short pop-up with three simple questions that can be answered in a few minutes. The user's responses is translated into an overview on a personal dashboard, allowing them to gain insights and reflect about their balance. Based on the insights, the app suggest relevant exercises that encourage the user to take action to support their mental well-being. The interaction is brief and manageable, because the pop-up is an interaction of 2-3 minutes and the dashboard can be used when the users choose (Figure 32).

What?

The first concept consists of a combination of a daily pop-up, which physicians receive at a random time of day. The pop-up consists of three varying questions, which the physician can answer based on that day's experience. The physician's answers are collected on an online balance dashboard. This dashboard consists of two parts: the first part provides an overview of the current balance situation, based on the answers from the pop-up; the second part focuses on providing tools to identify areas for improvement.

How?

As the physician fills in data on various aspects of work-life balance on a daily basis, an overview can be created of how their work-life balance is going. This provides feedback on which aspects of the job give them energy or, conversely, drain their energy, and how the physician felt during that period. The physician can decide for themselves when to start using this dashboard.



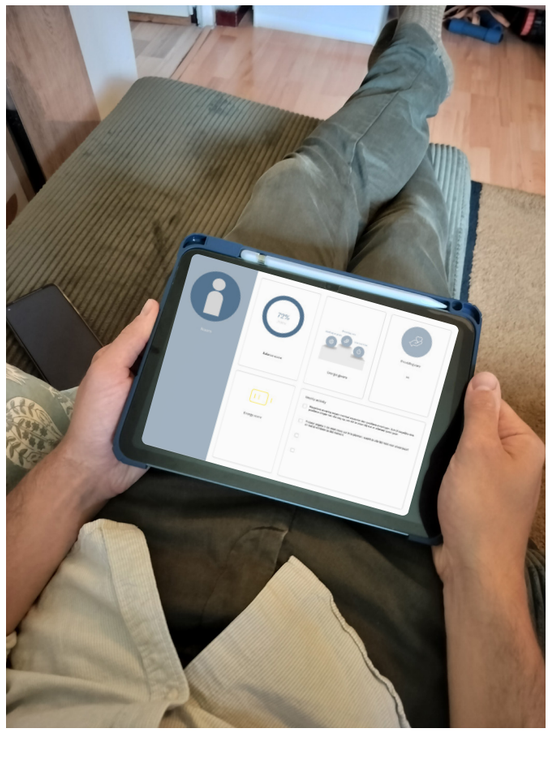


Figure 32: Interaction of pop-up

When?

The pop-up with questions will appear daily, at a random time during the day. The physician will see this when they pick up their phone, for example during a break or just after their shift.
If it is not convenient to fill in the pop-up at that moment, a snooze button could be included so that it reappears later.
The dashboard is more flexible to use. The physician can decide when to check it to get feedback on how the balance situation is progressing, and then decide when to start working on the weekly tips.

Why?

This concept offers personalized and fitted feedback. This enables physicians to really tackle the specific challenges they face when it comes to work-life balance. The pop-up prompts them to take a moment each day to reflect on how things are going, and if they then wish to focus on this further, they can do so using the information on the dashboard.

Concept idea 2: Balance cards



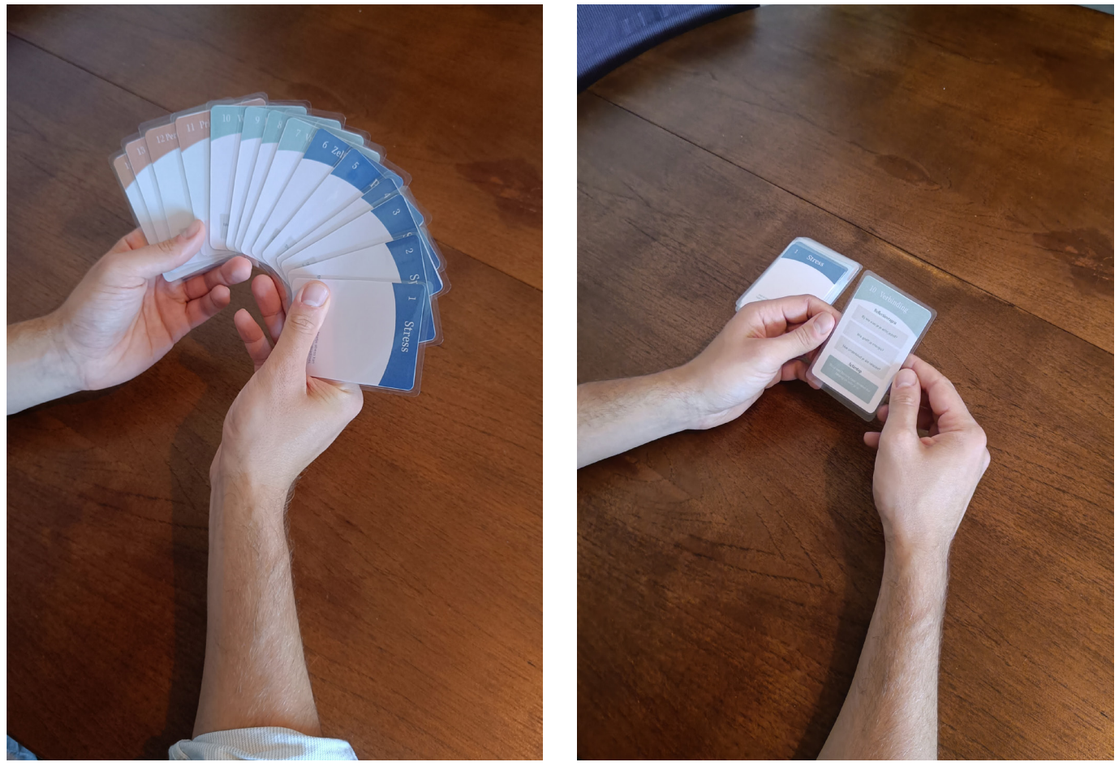


Figure 33: Interaction of cards

Interaction:

The user interacts with the coaching tool by selecting cards that fits with their personal situation or needs. Each cards presents a explanation, questions and exercise that encourages the user to reflect and improve that topic (Figure 33).

By choosing and discussing the cards, the user is guided through a structured yet flexible coaching process. The interaction allows users to determine which topics are relevant to them, while the cards provide guidance and self-reflection.

What?

The second concept consists of a set of balance cards. All the cards discuss a different topic that could influence the balance of physicians. Each card contains information and tasks relating to the specific situation the physicians find themselves in.

How?

The themes of the cards are grouped into different categories. The physician can select the category that they want to improve, and they can scroll through the themes of one category by looking at the names on top of the cards.
The selected card provides help by addressing a theme and providing questions and a step that physicians can take to work on that theme.

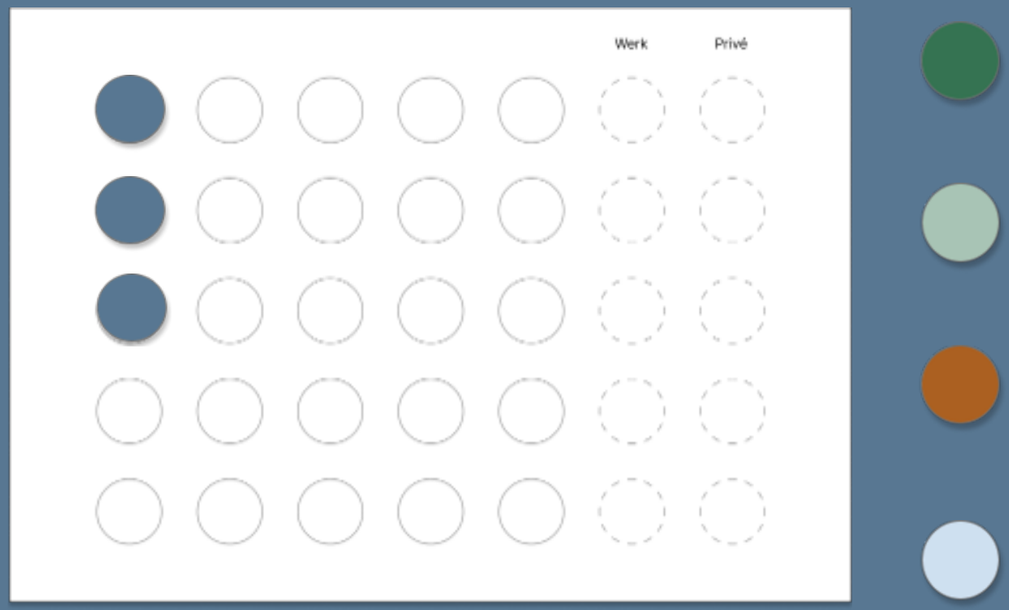
When?

The card game can be played at any time.

Why?

The idea behind it is that there are various themed cards, based on topics that physicians encounter in their work and private lives. The cards enable physicians to identify for themselves the areas they wish to focus on, allowing them to work on these in their own time.

Concept idea 3: Energy tracker



Interaction:

The magnetic board provides a tangible way to visualise and manage their available energy. The board consists of a 5 × 5 grid, representing a maximum amount of energy that the user can ‘use’. By placing magnets on the board, users become more aware of their energy levels and the limited amount of energy they have each day. Users can also earn additional energy tokens by engaging in relaxing and restorative activities. In this way, the tool encourages users to become aware of their energy capacity (Figure 34).

What?

This concept consists of an energy template with energy tokens which physicians can use to record their energy consumption. In this concept, a maximum limit of energy tokens per week is available. Each activity is associated with a specific amount of energy.
This concept could be expanded by:

By being able to earn extra energy points, for example by doing things at work that give you energy, or by getting a good night’s sleep, etc.

Reflection questions could be added

A guide in which a physicians first assesses the current situation and only then moves on to how they would like the situation to be, for example, and then reflects on that.





Figure 34: Interaction of energy tracker

How?

Users can use the energy template to either plan their week or to use it to look back at their week. The energy tokens help them make visible that there is a maximum amount of energy.

When?

When the physicians get home, the idea is that the energy sheets are displayed somewhere in the house, so that the physician can refer to them quickly. This could be on the fridge or in the study, for example. It’s a quick way to round off the day and reflect briefly on how it went.

Why?

There is simply a limit to how much energy you can expend, and once it’s gone, it’s gone. It’s therefore a good idea to make physicians aware of how they can properly recharge their batteries.



4.3 Concept selection

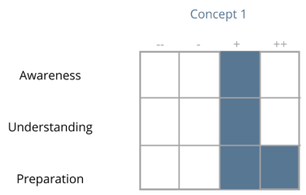
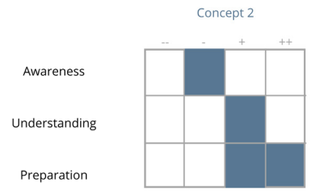
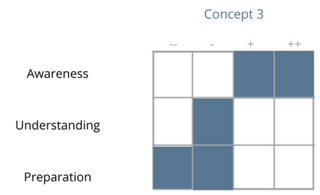
Concept 1 : Pop-up	Concept 2: Cards	Concept 3: Energy Tracker
		
+This approach is tailored to the individual's circumstances and is therefore most similar to coaching	+ The cards don't have to be used on a daily base. + The cards can be used individually, or with multiple people. For example as part a conversation starter .	+ The concept is quick to use. + The concept provides a quick overview of the balance.
- To get the best possible picture, the pop-up often needs to be filled in - The question is how often physicians will actually use the dashboard.	- Cards will not always correspond exactly to a person's personal situation	- It is an abstract way of communicating the balance. - Users need to fill in the energy tracker every day, to create the right overview.
* Option to expand with, for example, an AI tool	* This concept could be developed further at a later stage into several versions of a set of cards.	* This concept does show that there are limits and that not everything is possible.

Table 3: PMI method

Concept selection

The selection of the concept was done with a combination of the Harris Profile and the PMI method. The Harris profile is used for concept selection based on whether the concept meets the requirements (Van Boeijen et al., 2014). In this case, a small version of the Harris profile was used to see which concept fits best with the three stages of the design goal. Concept 1 and 2 score the best with the Harris Profile.

The PMI method was used to look into the other aspects of the concepts. The PMI method outlines the strengths (plus), weakness (minus) and interesting aspects of each concept (Van Boeijen et al., 2014).

Concept 1 and 2 score best on the Harris profile, however one of the minus points of concept 1 is that it is an online tool, and in order for it to work, it needs to be used on a daily or almost daily base, which does not fit with the other requirements. Thus, concept 2 was selected for further development.

4.3 Further development of chosen concept

The concept of the cards is a set of cards all addressing another theme that physicians might encounter. Each card focuses on a specific theme, including a short explanation, reflective questions and a practical tip. The cards can be used individually or in a group setting, as a conversation starter.

However, the current interaction with the cards remains relatively simple. The following chapter explores the development of the cards with the aim of creating a more interactive user experience.

The following questions served as the starting point for the development of the concept:
How can you make the balance clear over a longer period of time?
How do you use the cards to illustrate the balance?
How do you communicate about both the cards that provide energy and those that drain it?

A brainstorm was done in order to find answers to the questions (Figure 35). The concept is developed in three iterations. Each iteration consists of several prototypes that are developed and tested

For the testing phase a set of cards adressing themes relevant for students was made to be able to test the designed interaction with fellow students.

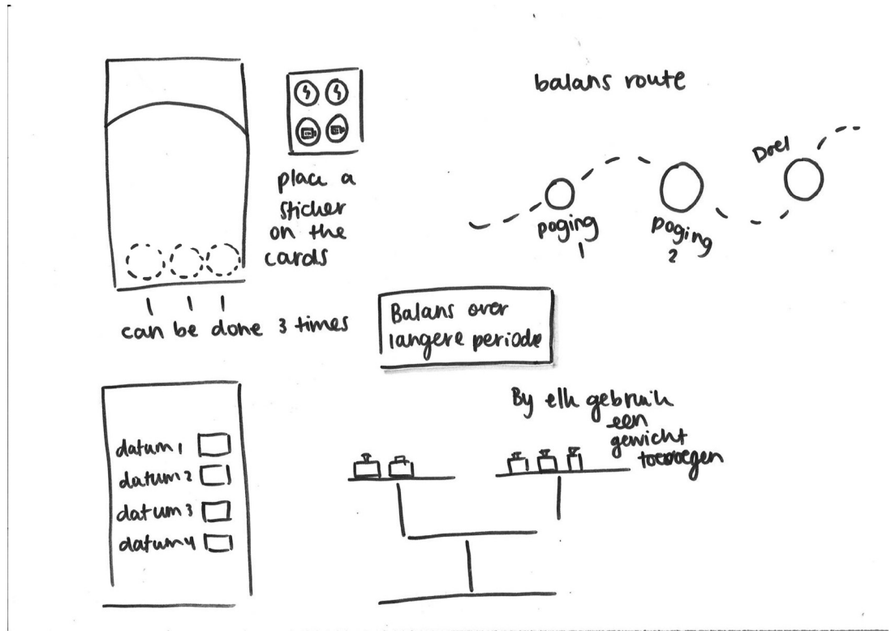


Figure 35: Brainstorm cards concept

Design of the cards

After the first idea of the cards, the cards were improved. Numbers were added to the cards to make the identification of the cards easier. The themes are divided in three different categories:

- Personal
- Social
- Student themes

The front of the card consists of a description of the specific theme, a corresponding visual and daily action. The back of the card consists of three reflective questions (Figure 36). The entire set of student cards can be found in Appendix H.



Figure 36: Example of the student card set

Iteration 1

The interaction consists of a combination of the cards, a cardholder and a scoresheet. A energy resource and energy demand card are selected by the user and placed in the cardholder.

The users can use the content of the cards to work on their mental balance.

The scoresheet is added, to provide an overview and a moment of reflection on how the balance is evolving over time.

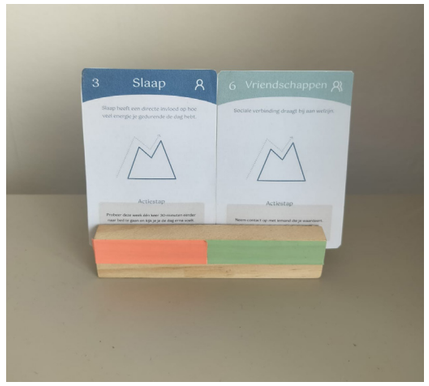
Card holder

Why

The idea behind the card holder is to communicate to the users that balance is something that has a positive and negative side. This aligns with positive psychology, where the focus is not only on solving mental problems, but also on looking into improving positive aspects.

How

Users select the cards that give them energy and the cards that cost them energy, and place them on the corresponding sides of the card holder. When they begin working with the card holder, it also serves as a storage space, keeping the selected cards visible and easily accessible.



Balance score sheet



Why

Why: Balance is a dynamic concept and, above all, one that applies over a longer period of time. Once physicians have gained an understanding of their balance, they can record it on the balance score sheet so that they can review how it has changed over time.

How

How: Participants are asked to select two theme cards that they would like to work on in the coming period. They are also asked to select one card each that they consider positive and one that they consider negative. They place these cards in the corresponding side of the card holder.

User test

A small-scale exploratory user test was conducted using the cards and cardholder. The aim of the test was to observe how users interacted with the cards, identify any points of confusion or uncertainty, and gather feedback for improvements of the concept.

Conclusion

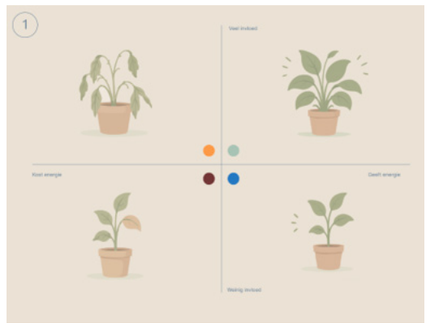
The first iteration revealed that it is useful to look not only at a problem, a negative card, but also to reflect on a positive card. Furthermore, the use of the card holder remains a bit vague for the users. Although it is interesting to see the positive and negative card, it does not really help to create an overview and therefore does not provide any insight into the overall balance.

Iteration 2

The second iteration has the focus to help the user to get insights in the entire mental balance, instead of selecting only two cards. There the balance field was developed. The users still get to select two cards to use to improve their balance, but first they can create an overview of the balance.

The card holder is changed into a card sleeve that is added to the packaging for the cards, to make it more integrated into the whole.

Balance field



Why: Based on the interview session in the research phase of this project, it became clear that not all elements have an equal impact on the experience of balance. For that reason, the card holder was changed into a balance playing field with two dimensions. The first dimension is "energy drainer" & "energy provider", and the other dimension is the amount of influence it has on the participant, "low influence" & "high influence". In the second version, the analogy of a growing plant was added.

How: Physicians are asked to place all the cards on the playing field based on their current experiences, except for the ones that do not influence them. When all the cards are placed into the playing field it creates an overview of their balance situation.

Cards in the box



Why: The physicians will start working with the information on the cards at home, but to ensure that the cards aren't forgotten, a visibility trigger (Fogg, source) has been added. This idea is similar to the card holder, but it with in this version it is integrated into the box, instead of a extra item.

How: The "energy giver" card and the "energy taker" card are both placed in the box, on the front and back. The physicians can then place the box somewhere in plain sight, so they have a visual reminder to start working with the cards.

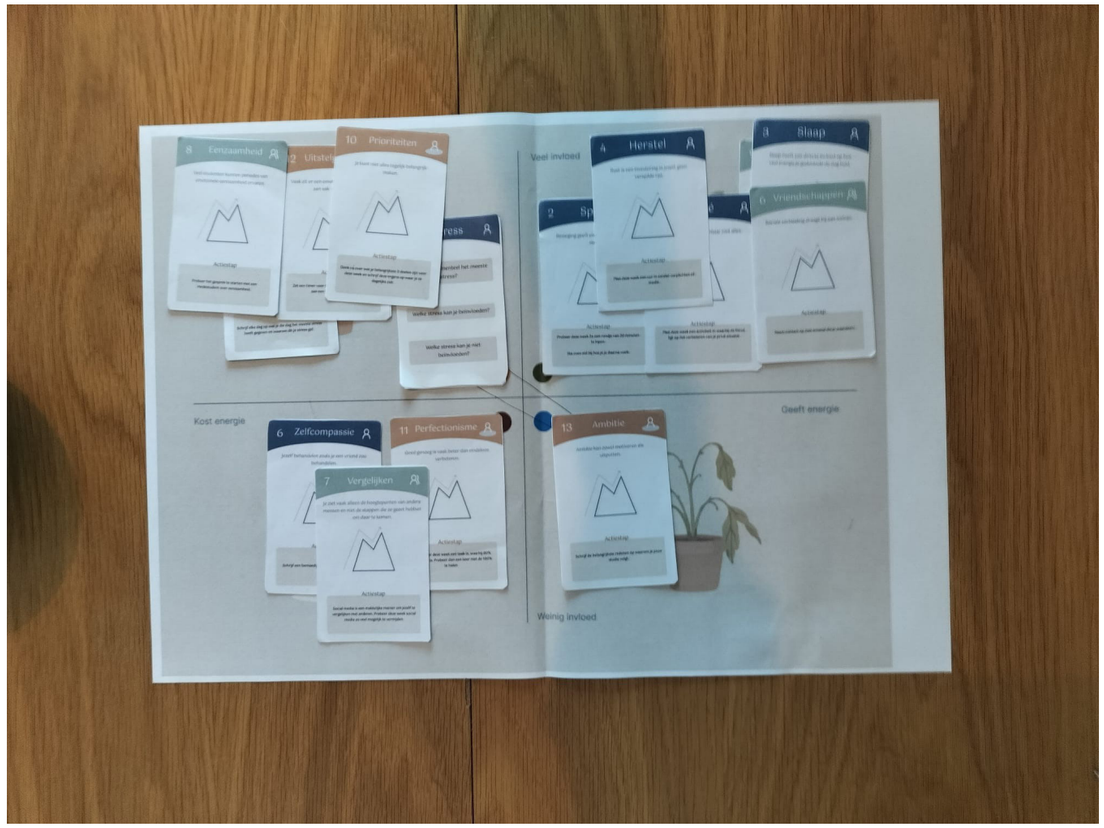


Figure 37: User testing

User test

A small user test was conducted with two pairs of participants, who were asked to place the cards into the playing field (Figure 37). The goal was to get some insights into the interaction between the participants and to see how it was to have to put the cards down into the game.



Conclusion

-Some themes were quite difficult to place on the axis.
-"It is an easy way to have a chat about these topics, especially since the amount of themes that is in the game"
-The participants like the overview that the cards on the playing field shows.

-The questions on a card that was selected as a positive cards, can still have a negative tone, which makes it confusing.

The interaction between the cards placed on the playing field adds an extra dimension to the game, however, it is important to clearly explain the weighting/influence that a theme has on the player and to make it clear that this relates to the current balance.

The time to place all the cards with an average time of five minutes:
P1: 5.58 minutes
P2: 3,36 minutes
P3: 6,06 minutes

Iteration 3

The third iteration focussed on improving the scorefield by changing it into a scale with weighted cardholders for the impact. The scale makes the balance more visible.

The scoresheet from the first iteration was improved by translating the balance into a score, when the scale is used multiple times, the users can look back into their previous mental balance.

The cards were improved in this iteration, the order tof the content of the card was changed.

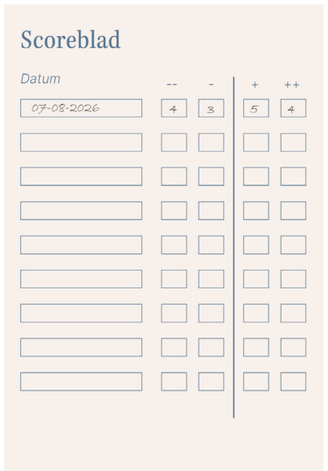
Balance scale



Why: Based on the interview session in the research phase of this project, it became clear that not all elements have an equal impact on the experience of balance. For that reason, the card holder was changed into a balance playing field with two dimensions. The first dimension is "energy drainer" & "energy provider", and the other dimension is the amount of influence it has on the participant, "low influence" & "high influence". In the second version, the analogy of a growing plant was added.

How: Physicians are asked to place all the cards on the playing field based on their current experiences, except for the ones that do not influence them. When all the cards are placed into the playing field it creates an overview of their balance situation.

Scoresheet



Why: The scorecard has been updated so that cards are no longer considered individually; instead, the focus is on the overall balance.

How: Users enter the number of cards that provide energy and those that consume energy. The scoresheet is placed on the inside of the box.

Cards













Why: The order of the information on the card was not the right order. It is changed to the question first, and after the users reflected on the questions they get the action step.

How:
Reflective questions first as a way to introduce the users to the topic and to let them think about the theme, and the action steps are below the questions.

An overview of all the (student) cards can be found in appendix J.

User test

Two participants participated in the user test during the third iteration. The focus of this user test was to test both the interaction of placing the cards with the weights on the scale and the interaction of getting started with the cards.
The participants took part in a 30-minute session covering the instructions, placing items on the scales and completing the scorecard (Figure 38 & 39). They were then asked to use the two selected cards for a week, after a week a semi-structured interview was conducted. The notes and likert scale of the interviews can be found in Appendix I.



Figure 38: User test 1



Figure 39: Usert test 2

Insights

Interaction with the scale

Using the scale was seen as a positive experience, as it provides a clear picture of the current situation. It's helpful to help pinpoint where the problem lies. It was also seen as a positive that both positive and negative topics were covered. It does take a bit of getting used to at first to work out exactly when a card is positive or negative.

Interaction with cards

According to the users, the cards were interesting to use. The reflection questions, were considered useful. One of the users did not carry out the action step (write a letter to yourself, for the self-compassion card) because it felt too daunting. However, finding the motivation to actually start using the cards proved more difficult than expected. The participants had to push themselves to do so, as it did present a sort of hurdle because there was still something to be completed.

Other feedback

- Being able to see both the positive and negative cards at the same time.
- The wording of the tasks and reflection questions relating to the card chosen as positive must not be negative.
- Small improvements for the manual, design of the cards, and design of the weights.

Final improvements

After the user test of the third iteration and a evaluation with Arts in Balans some other alternations were made to the design (Figure 41).

Cards

Numbers were removed from the cards. A scale symbol was added to the front, and a thinking symbol was added to the back of the card. This visually helps the participants with knowing when to use which side of the card (Figure 40).

There is a duration cue added to the practical tip on the card, this is done with the goal to lower the threshold of actually doing the step.

Scale

The difference between the weights was made larger, so the users can actually feel the difference between the impact.

No distinction is made between weight, on the negative and positive sides. (Although there is a theory that negative events carry more weight than positive events.) In the tests, the scales tended to tip more towards the negative in most cases.

Scoreblock

Not in the box, but added to the manual, mainly because it is difficult to write in the box.

Packaging

After evaluation the concept with Arts in Balans, it was decided not to design a card sleeve on the box, but to use ot in the box, but to explain in the manual that the cards can be placed in tne of the weights but added to the manual, mainly because it is difficult to write in the box.

Manual

Manual was improved based on the feedback of the users test and the manual was made more visually, so it is easier to understand.

The score sheet was added to the back of the manual.



Figure 40: Old card design (left) and new card (right



Figure41: Evaluation with Arts in Balans

5.

Final design

This chapter provides further details on the design. It covers the various aspects of the interaction and how these are reflected in the design.



Figure 42: Overview of final design



Figure 43: Cardbox and cards

5.1 Final design

Hele interactie uitleggen

An interactive tool with a card set and a balance scale. (Figure 42)

1. Awareness : Identification of balance

The first step of the interaction consists of creataing awareness about the mental balance. During this step, the cards are used to identify the themes that influence the experience of balance. The user places the cards on the scales one by one. To do this, the user takes a card, selects the impact associated with it, and places the card and the impact token together on the scales.

2 Understanding : Deeper dive into the themes

The second step is to understand specific themes that impact the individuals balance. The back of the cards each have three reflective question about that theme. The goal of these questions is to help the participant to get a better understanding of that theme. This can be done by reflecting one the question by themselves, or in a conversation with a partner, coach of coworker.

3. Preparation : A step towards more behavior

The final step is the preparation of change. The cards facilitate an action step towards improvement for that specific theme. Each step is a small step with a low threshold to do. The steps are formulated in a measurable way, making it clear when they have been completed.

Context of use

This design can be used in multiple settings, either in a private setting, a workshop setting and a coaching session (Figure 44). The manual that is added to the set, allows individuals to use the set by themselves. When it is used during a workshop, there will be a facilitator that facilitates the session. The tool can also be used during a physical one on one coachingsession.

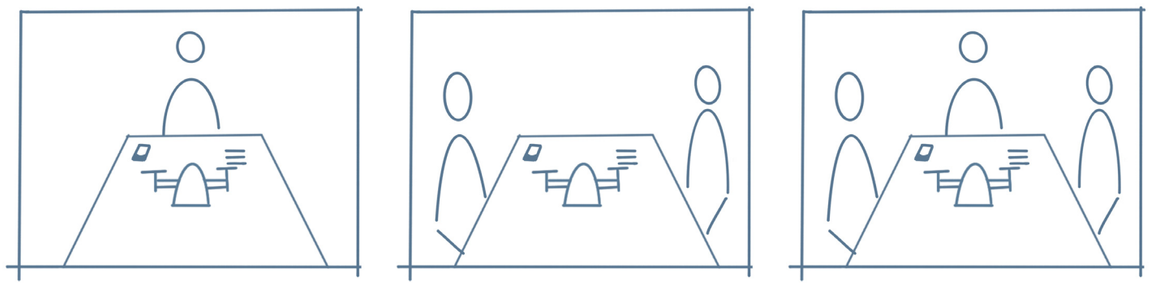
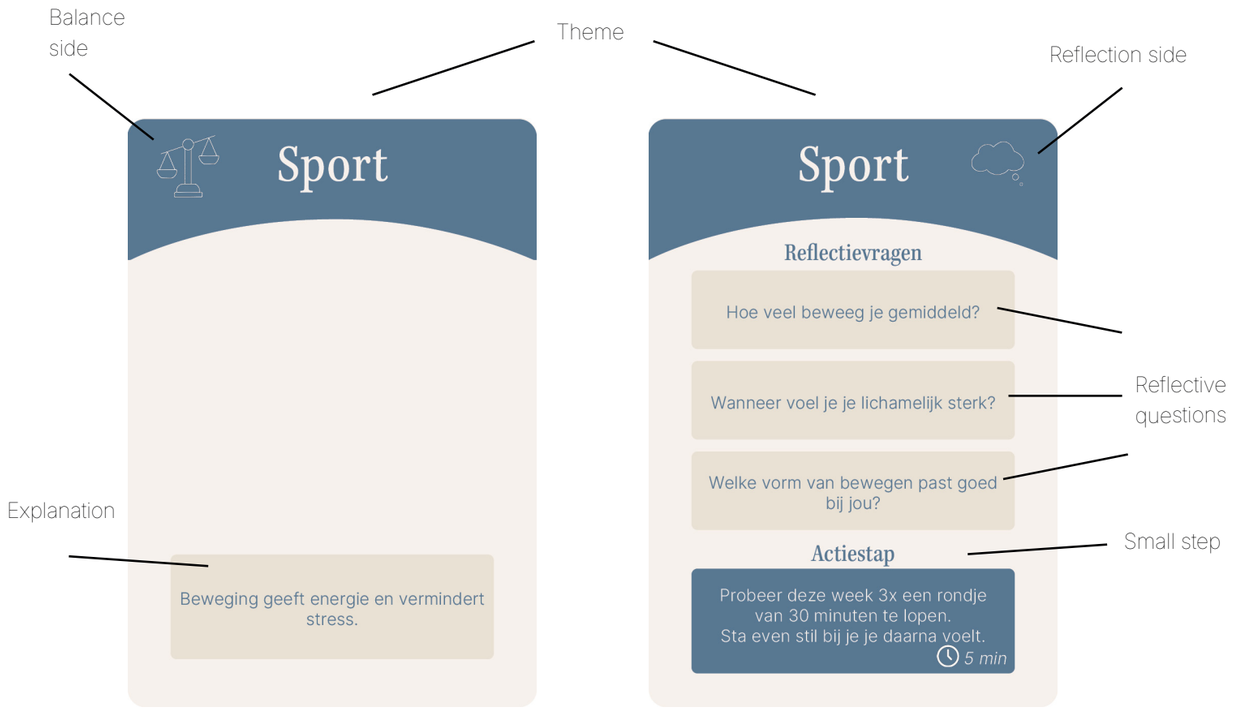


Figure 44: The context of use (individual - coaching setting - workshop setting)

Cards



Front of the card **Back of the card**

Figure 45: The context of use

The first part of the interaction is the cards. Each card has it's own theme and corresponding details (Figure 45).

The themes for the cards were derived from the themes from the interview. The interview clustered formed the start for the theme and together with Arts in Balance the themes were into 14 final themes. Unlike the student set of cards, these cards do notr have categories, because the main focus of the cards is to show the balance and to help with the next steps, and the categories were not necessary to do so. The last card is an empty card, so when the users miss a specific theme, they can use the empty card for that.

Front of the cards

The front side of each card contains a sign of a scale on, a hint that that side of the card is needed for the scale. It also contains an icon corresponding to that specific theme and an explanation. The explanation of the card is formulated in such a way that it emphasises both the positive and negative aspects of the subject. This double sided explanation was adjusted after the user testing, because it helped the users in understanding how a theme could be both a energy demand or energy resource.

Back of the cards

The back side of the cards show a thinking cloud, meaning that this side is the reflective side consisting of reflective questions and a actionstep

Reflective question

The back side of each card contains three questions about that theme, which physicians can use to reflect on that theme, the question are promted so that they also can be used when the card is an energyresources of energy demand.

Actionstep

Each card is provided with a actionstep that physicinas can use as a start to improve or enlarge one of the themes. The actionsteps are framed as a positive improvement. The objectives have been formulated as measurable goals that can therefore be clearly achieved; in addition, they are small goals that physicians should be able to carry out in a small time frame.

The entire set of cards can be found in appendix I.

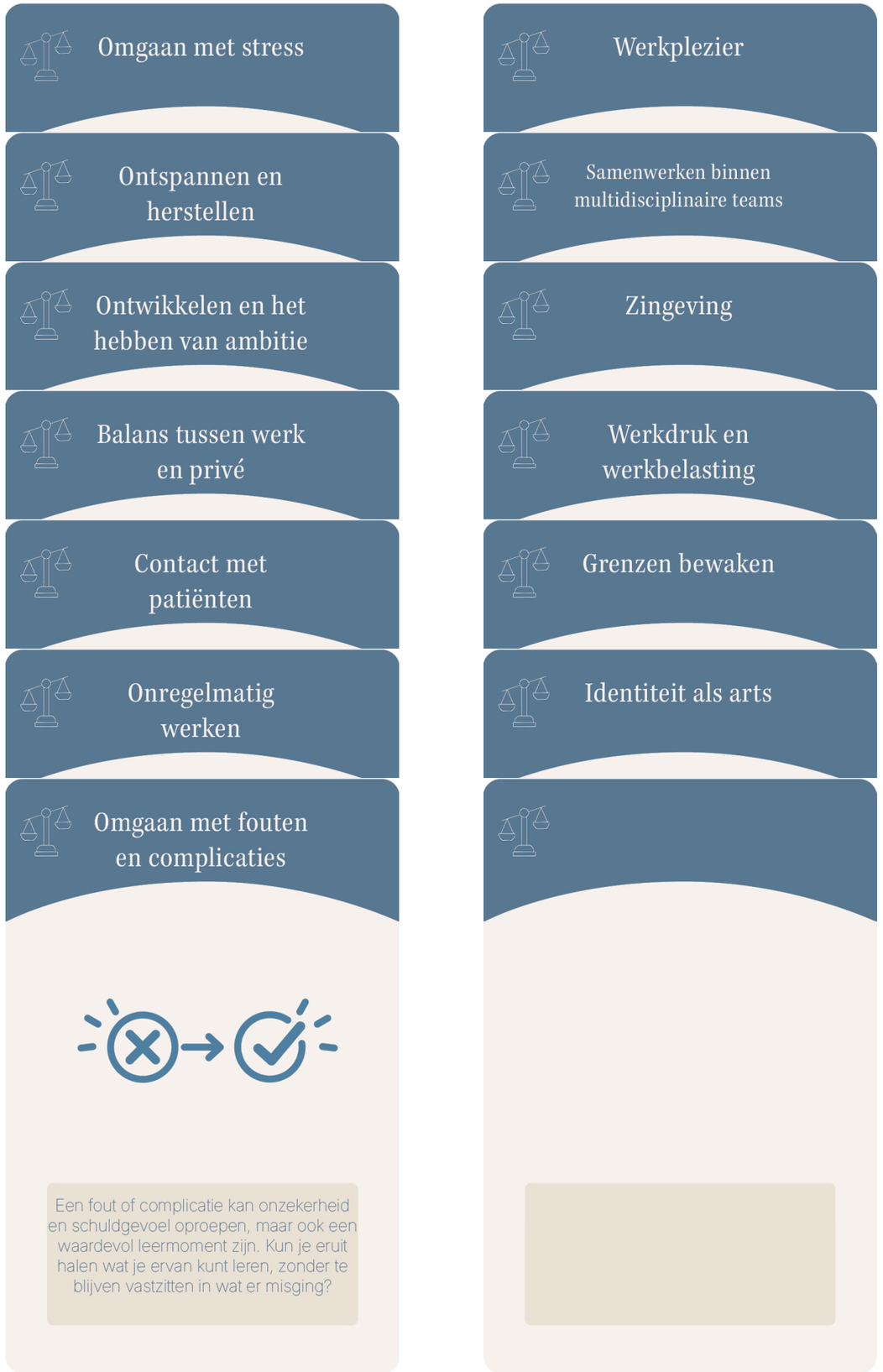


Figure 46: Overview of the cards.

Scale



Figure 47: Scale

Scale

This balance scale is developed and 3d printed for the interaction (Figure 47). Users can combine the cards and weights to place them together on the scale. One side of the scale states 'energiegever' meaning energy resources and 'energienemers' meaning energy demands. Users place the cards with the weight on the corresponding side of scale, according to how they experience the theme from the card

Weights

There are two weights that communicate the impact that a card has on the user (Figure 48). The cards can be slide into the weight and together they can be placed on the scale. The larger weight is approxemately two times heavier than the smaller weight.

3d printing

The decision was made to use 3D printing as the manufacturing method because it is easy to reproduce in small numbers. The entire set of scales can be put together in this way, and little assembly is required. The material used for the scale and weights is PETG.

Parts:

The scale consists of seven different parts (Figure 49). The components have been designed to require as little assembly as possible, so that the scales can be easily put together and taken apart.

Weightholder + ring

This weightholder was designed with the dimensions of having place for a maximum of 10 small weights or maximum 8 large weights (Figure 48).

The edge on top of the weightholder is there to prevent the weights from sliding of. Two printing methods were tried, the first one, where the

Arm:

The arm is a seperate part, that can be slided onto the rotating part. Mainly because the entire lenghth is too long to fit in most 3d printers the arm is connected to the other part with a diagonal dovetail joint, that is invisible from the top, so the part cannot slide out of the holder. The arm graps the weightholder part with a snapfit connection.

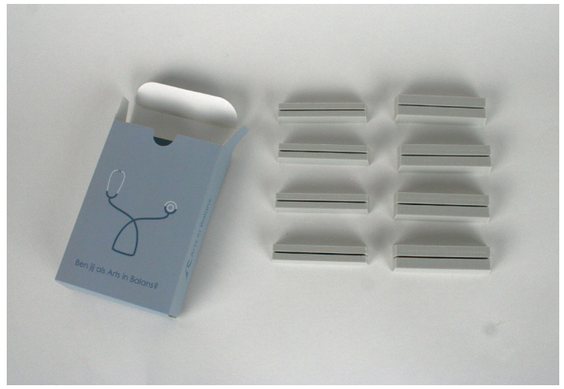


Figure 48: The weights

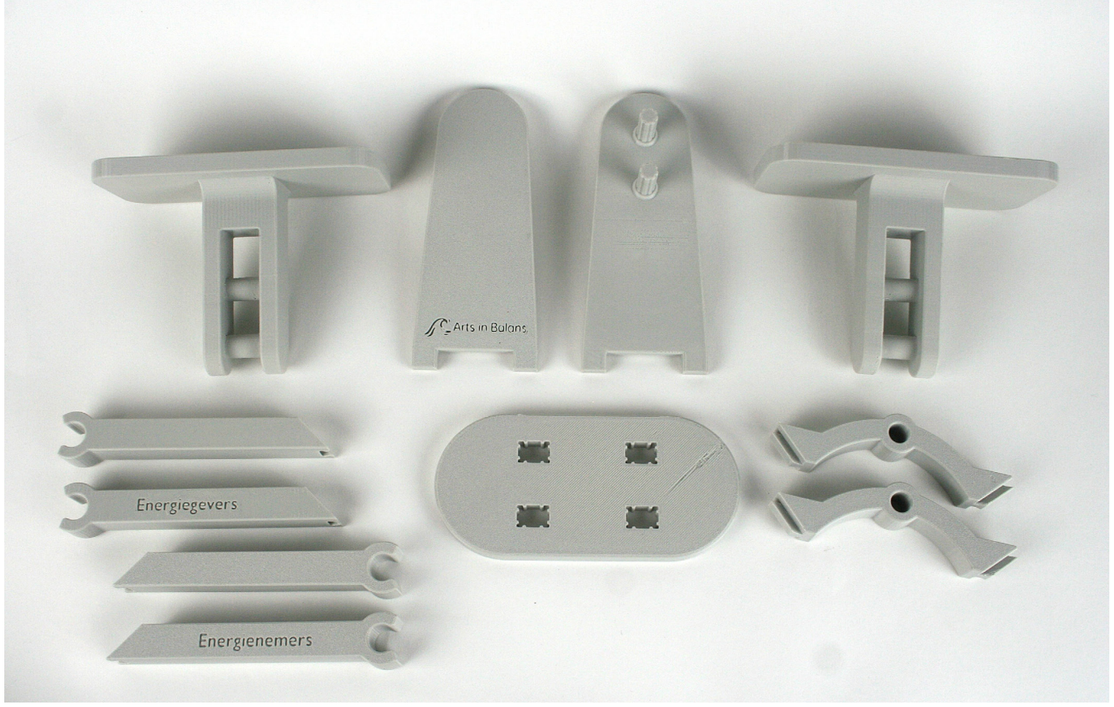


Figure 49: All the parts of the scale

Manual

A manual was developed for the individual use of the tool. This manual makes the tool a standalone product, because users can use the tool without needing any facilator. The manual is printed and added as a small booklet to the cardbox.

Gebruiksaanwijzing



Mentale balans

Een spel om even bewust stil te staan bij wat jou energie geeft, wat energie vraagt en waar je wilt bijsturen.

Het spel bestaat uit drie fases:
1. Balans opnemen
2. Aan de slag met balans kaarten
3. Reflecteren

Onderdelen:
15 balans kaarten
Balans weegschaal
Gewichten (10x licht & 10x zwaar)
Balans reflectie

Goed om te weten!

Balans is niet het vermijden van alles wat energie kost, maar leren herkennen wat je energie geeft, wat energie vraagt en wanneer het tijd is om bij te sturen.

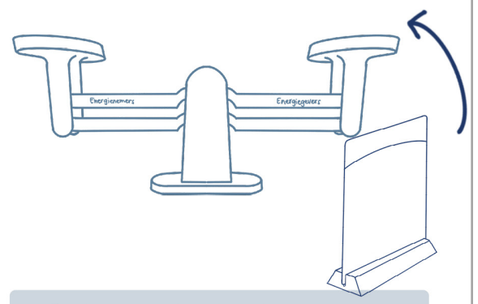
Niet alle kaarten zullen voor je van toepassing zijn, deze kaarten kun je apart leggen.

1. Balans opnemen

Eerst ga je aan de slag met het inzichtelijk maken van je huidige balans. De kaarten kun je op de weegschaal zetten om een overzicht te creëren van wat jouw energiegevers en energienemers zijn.

Voorbereiding
Leg de kaarten en gewichten klaar en zet de weegschaal in elkaar.

1. Pak een kaart van de stapel & neem deze kaart door.
2. Plaats de kaart in een licht of zwaar gewicht, afhankelijk van hoeveel invloed dit onderwerp op jou heeft. Hoe meer invloed, hoe zwaarder het gewicht.
3. Plaats het gewicht met de kaart op de weegschaal, waarbij de energiegevers kant van de weegschaal staat voor kaarten die je energie geven en de energienemers kant van de weegschaal voor kaarten die je energie kosten. (zie afbeelding volgende pagina



4. Denk na over de volgende vragen:

   Hoe ziet mijn balans eruit?
   Waarom zijn de kaarten energiegevers of energienemers?
   Klopt dit met hoe je je voelt?

Tip!

Bedenk wat een kaart op dit moment voor je betekend, slaap kan een positieve kaart zijn, maar als je slaap op dit moment niet goed is, dan kost het dus energie.

2. Balans vergroten

Kies waar je de komende week mee aan de slag wilt gaan. Kleine acties kunnen helpen om je balans stap voor stap te beïnvloeden en te verbeteren.



De achterkant van de kaart bevat:
- Reflectievragen om verder over na te denken.
- Actiestap om iets in de praktijk te doen.

Tip!

Plan alvast een moment in je agenda om met de kaarten aan de slag te gaan en zet het doosje op een plek neer waar je het elke dag kan zien.

1. Kies twee kaarten waarmee je aan de slag wilt gaan:
   1 kaart die je energie geeft
   1 kaart die je energie kost
   Plaats deze kaart in een van de gewichtjes.
2. Zet het gewicht met de twee kaarten op een plek, waar je deze dagelijks ziet.
3. Je gaat nu één week met de twee kaarten aan de slag. Lees de **reflectievragen** door en denk na over je antwoorden, schrijf deze ergens op als je dat fijn vindt. Voer daarna de **actiestap** van de kaart uit.
4. Neem na één week de tijd om even terug te kijken.

3. Reflecteren

Op de achterkant van de gebruiksaanwijzing is een balansscore blad te vinden. Gebruik deze om een datum te kiezen, wanneer je met de kaarten aan de slag wilt gaan en gebruik deze om terug te blikken op welk inzicht dit je heeft gegeven.

1. Vul in welke kaarten je hebt gekozen als energiegever en energienemer.

2. Vul een datum in waarop je met de kaarten aan de slag wilt gaan en zet deze in je agenda.

3. Nadat je hiermee aan de slag bent geweest, schrijf je in één zin op, wat je inzicht was van de week

Goed gedaan! Je hebt bewust de tijd genomen voor het verbeteren van je mentale balans!

Pak het spel er weer bij, als je merkt dat je weer eens vastloopt, of graag je balans wilt verbeteren!

Even sparren over balans?

Scan dan de onderstaande QR-code voor een online koffie.

Balance overview sheet

The balance sheet was developed as a final step for the interaction. This sheet is filled in by the physician, two times during the entire interaction.

Once they have chosen two cards, they write these two themes on the card and, next to the date, enter their own deadline, that is, the date by which they want to start working on the content of the cards. After this date, they add one further insight to the other information, something they have gained from using the cards, to facilitate a further opportunity for reflection.

If the tool is used more frequently, an overview emerges of which cards are chosen and what interesting insights have been gained.

Balans overzicht

Energiegever *Energienemer* *Datum*

Inzicht

Energiegever *Energienemer* *Datum*

Inzicht

Energiegever *Energienemer* *Datum*

Inzicht

Energiegever *Energienemer* *Datum*

Inzicht

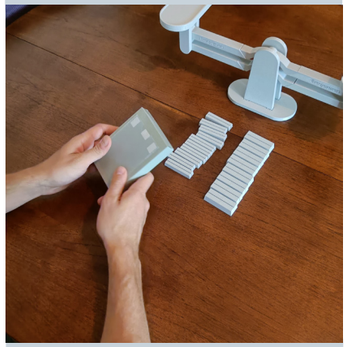
Energiegever *Energienemer* *Datum*

Inzicht

Figure 50: The balance sheet

5.2 Use scenario

1 Start the toolkit



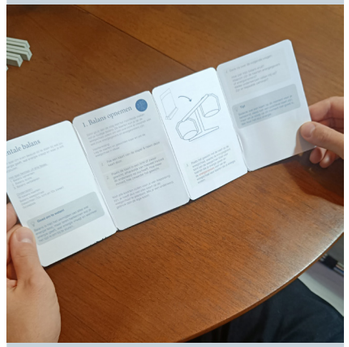
User wants to do something to improve their balance.

2 Start the toolkit



User opens the package of cards.

3 Read the manual



User reads the manual to understand how it works.

4 Select the first card



Scrolling to the cards, to select a first card.

5 Read the explanation



The explanation can help the user to understand the theme.

6 Select the impact



User selects whether the card has less of more impact.

7 Place card on scale



User places the card and on the corresponding side.

8 Repeat with all cards



All the cards can be placed on the scale.

9 Selection of cards



Selection of a energy resource and energy demand card.

10 Read the back side



The back of the cards contain information for to better understand that theme

11 Fill in the sheet



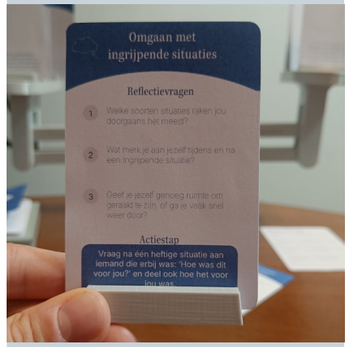
The balance sheet is filled in and user sets a deadline

12 Set date in agenda



Deadline is set in agenda.

13 Place the card in holder



The backside of the cards is being used.

14 Somewhere within sight



Placed in sight, to get a daily reminder of the cards.

6.

Validate

This chapter describes the latest evaluation carried out with doctors using the latest version of the design. Based on the results of the evaluations, recommendations and limitations will be formulated.

6.1 Final Evaluation

The final step is to evaluate the design to be able to conclude on the design and whether the design fits with requirements.

Research questions

RQ1: To what extent does the tool support physicians becoming aware of their mental balance?
RQ2: To what extent does the tool help them to understand more about their mental balance?
RQ3: To what extent does the tool help with the first steps in improving the mental balance?

Approach

Three physicians participated in the validation of the design. The design was validated across the three stages of the interactions. The evaluation consists of a user test, followed by a semi-structured interview. The test then continues, and participants are asked to work with the cards independently. After a week, the participants complete a questionnaire about their experiences. The survey can be found in appendix J.

Results

The results of the survey can be found in appendix K. Due to the small participant sample size, it is difficult to draw conclusions from this evaluation. The answers to the research questions are a initial indication, based on the answers from the survey and from the interviews.





Figure 51: Evaluation with physicians

General balance state

The participants were asked to place the cards on the scales at the start of the week and to do so again at the end of the week, to see if there had been any change in the balance. For one of the three participants, the balance remained the same, although the amount of weights shifted, the balance remained the same.
The other two participants, experienced a small improvement because more energy-givers were added, or even because there were fewer energy-takers. As this is a small group and many factors can influence the experience of balance, it is difficult to say whether this is due to the design.

RQ1: 1. To what extent does the tool support physicians becoming aware of their mental balance?

Three participants agree with the statement that the tool helps with becoming aware about the mental balance, one strongly agrees.
“It’s fun to do, and it’s good to think about it and talk about it.”
“The funny thing is, when you read it, you don’t do anything with it. So if you’ve only got the cards, you have to think twice about it now.”

RQ2: To what extent does the tool help them to understand more about their mental balance?

All three participants agree that it is useful to start working with the content of the cards. Three participants agree with that the question help to think about that specific subject, one out of the three participants strongly agrees.





Figure 52: Evaluation with physicians

RQ3: To what extent does the tool help with the first steps in improving the mental balance?

After using the cards, the participants were asked whether they felt the action steps were appropriate for the cards. All three respondents indicated that the action steps were well suited to the themes. In addition, two of the three respondents stated that they agreed with the statement that the action steps help to bring about a small improvement. The participants did, however, indicate that they found it more useful to work with the ‘energy-giver’ card (3 agreed) than with the ‘energy-taker’ (1 agreed, 2 neutral). The statement whether the action steps helps with making a small changes was mixed, with one participant remaining neutral and two agreeing.

6.2 Conclusion

Earlier in this project, a number of design requirements were set out. At this stage, the requirements are being reviewed to assess the extent to which they are being met.

Mental balance

1. The design should enhance the mental balance of physicians.

The design tries to enhance the mental balance by applying the first three steps of the temporal map of coaching (Theeboom, 2017). These steps are making people aware, help them to understand and prepare them for change.

2. The design should help the physicians become aware of their balance.

The evalation survey showed that all participants agree with the statement that the tool help with the awareness of the mental balance, one of the participants strongly agrees.

3. The design should help physicians with understanding more about the balance themes.

All participants agree that it is useful to work with the content of the cards. Also the three participants agree with the statement that the questions are helpful to better understand that specific theme.

4. The design should help the physicians prepare for behavior change.

According to the participants of the evaluation, the action steps helps a bit in making a small change, with one neutral participant and two participants that agreed. The themes did fit well to the corresponding theme, with three participants agreeing. The participants did prefer the action step and energytaker card to improve, rather than the energygiver card.

Physicians

5. The design should fit into the physicians own environment.

This requirement is based on the information that the priority for physicians is to provide care, when they are at work and a patient is in need, this will always go first. Therefor, the design is made for at home use, or use during a workshop or coaching session, which is not during work hours.

6. The design should be used according to the needs of the physician and not be mandatory on a daily basis.

The scale can be used whenever a physician wants to become more aware of their current balance. The cards support the physician by guiding them with reflective questions and an action step.

7. The design should not add unnecessary workload to the physicians’ daily routines, only adding targeted workload in supporting balance.

The tool can be used whenever the physicians want to use the tool. The evaluation survey indicated that al three participants disagreed with the statement that the tool takes too long tu use, with one participants strongly disagreeging.

Company

8. The design should be easily integrated into the existing portfolio of Arts in Balans.

The design fits into the existing portfolio of Arts in Balans, it is a coaching tool that can be used in coaching or a workshop provided by Arts in Balans.

9. The design should be used in an interactive setting, allowing physicians to engage with it together with colleagues, supervisors or other people, though it should also be usable individually.

The final design is suitable for individual use, use during coaching sessions, and can also be used during a workshop, with a facilitator. The manual makes it possible to be used individually and a coach could facilitate the use during a coaching session.

6.3 Discussion

Research limitations

Small sample size
The amount of participants for the interview was quite little, mainly due to time restrictions and availability of the target group. A larger sample size could have helped in identifying more clear themes for the cardset later in the project.

Research into mental well-being interventions
More research could have been carried out into mental health interventions and whether there are specific strategies for these, in order to determine what does and does not work. The theoretical framework currently stems from the Transtheoretical Model, which is based on behavioural change, whilst improving mental health can also involve the way in which a person copes with something.

Design limitations

Testing long term effects
During this project, it was not possible to test the effects of the cards over a longer period of time. The participants got to use the cards for a week. Longer use of the cards could be helpful to get more insights into the effect that the cards have.

Validating the themes
The themes of the cards have been evaluated by asking the participants of the evaluation whether the themes were relevant for them and if they missed any themes. A study into the different themes would be intesting to evaluate on the current themes and the identify missing themes.

Small sample size
During the test, several participants scored heavily towards energy-givers, which may make the results less relevant for these participants. User testing with more participants could provide further insights into this and into whether the interaction is experienced differently when the scales tip more towards energy-takers at the start.

Validating the interaction in different context of use
The current design has not been tested in an interactive setting, like a workshop or coaching session.

Participant selection
The participants from the evaluation were selected on being a physician in a hospital. Therefore some participants were already content with their own mental balance and were not specifically looking for improvement.

6.4 Recommendations

Evaluate the themes of the cards within this design.

The current themes have been identified during the research phase of this project. These themes could still be validated to determine whether they actually cover all the key themes for this interaction or whether there are any themes still missing. Potential themes found in the evaluation with physicians were:

- Working context
- (Further) education and training
- Social safety
- Personal physical health / personal fitness
- Perspective & Putting things into perspective
- Gratitude

Develop several sets of cards, for example, even more specific cards covering certain periods in a physician's life.

The current set is designed to be relevant to most physician working in hospitals. One possible extension would be to apply it to specific stages in physician' careers. For example, being a physician whilst starting a family or beginning work as a junior physician.

Add a set of extra action steps and reflection questions to the set.

To ensure that users can continue to use it, an additional booklet containing extensions to the action steps and questions could be included. These action steps could even serve as a follow-up to the action steps mentioned previously, to provide participants with an extra challenge.

Goal setting

The Transtheoretical model describes that setting your own goals can be a powerful tool when it comes to behavior change. It could be interesting too investigate whether self-defined goals have a greater impact on improving balance than the curent predefined practical tips.

Reflection

The past months, I've learnt a lot as a designer over the past few months, but above all I've learnt a great deal about how I go about my work on such a large-scale project, what my pitfalls are and what motivates me in the design process.

When I started this project, with the goal to design a planner or journal, I did not expect to have to use some skills and although it did take me a while to get back into some of the skills, I found it very instructive to design all the prototypes, have them laser-cut and 3D-printed.

The proces was quite messy and not always easy, but I am proud of the progress that i made and the results of this project. The design is something that resonates with me and I really enjoyed the final evaluation with the physicians.

In my project brief, I listed three points that I wanted to improve upon during my final-year project. The first point concerned writing the report. I think this was one of the biggest challenges I faced during my final-year project, as I found it very difficult to structure the text and write it in a logical manner. I believe I have made progress in this area and have certainly learnt some important lessons, but it will always remain an area for improvement.

The second part involved setting up a co-creation session. In the end, I held a co-creation session and organised a focus group. Both activities were great fun and taught me to think about who I was dealing with, what the best approach is in such situations, and how to facilitate a session like that.

My final goal before graduating was to maintain an overview of my project and to keep zooming out, so that I could see the bigger picture. This goal is a lot harder to measure, I noticed that I always tried to do this before meetings, and that the meetings themselves helped me to maintain that overview, but outside of those meetings it remained quite a challenge.

This project has certainly taught me that designing for and with people really does motivate me and I think the biggest lesson I've learnt is that I just need to get started on something and do it, rather than expecting myself to get it right first time.

Statement on use of AI

AI has been used in a number of ways in this thesis.

1. As a writing coach

AI has been consultated as a source on how to structure parts of this thesis. Some questions have been asked about specific types of information and how to structure that information in such a way so it would be easier for the reader to understand.

Also AI has been used as an inspiration on how to visualize some visuals. The images generated using AI are indicated.

2. As a source of inspiration/sparring partner

ChatGPT has been consultated as a source of extra inspiration. For example the initial idea of combining a stetoscope and a scale in the logo was asked to improve through ChatGPT, however the improvements mentioned were not used, because they were not what I wanted.

3. As input for the cards

AI was also used to generate the content of the cards. The explanations, reflection questions and action steps were created by AI, but were subsequently improved and adapted over several iterations.

4. To generate images

AI was used to generate images for the report in cases where it was difficult to use existing visuals. The corresponding images are marked as having been created using AI.

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Appendix

A. Project brief
B. Notes: observations
C. Initial Assignment
D. Interview questions
E. Clusters from interviews
F. Focus group results
G: Notes from user testing
H. Co-creation results
I. Notes from third iteration user testing
J. Students cards
K. Balance cards
L. Survey evaluation
M. Survey results

Appendix A: Project brief

Project Proposal form
IDE Master Graduation Project

In this proposal the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document needs to be prepared for the Kick-off meeting and should be submitted in MyCase.

Name student Jitske van Leusen **Student number** 4882369

Project title Design a tool to support mental wellbeing for hospital doctors

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

MSc programme ☑ Design for Interaction ☐ Integrated Product Design ☐ Strategic Product Design

☐ Other *(in case of a double degree outside IDE):*

Introduction

Describe the context of your project in the box below; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

The context of my assignment is to design a tool for doctors in hospitals to help them find balance. Being a doctor in a hospital is a demanding profession, where working in a complex and dynamic environment can put a lot of pressure on doctors. Many doctors are ambitious and work hard to provide the best care for their patients, but their education does not teach them how to deal with high work pressure and the ambitious surroundings.

The company Arts in Balans (translated as Doctor in Balance) focuses on helping all doctors by providing one free coaching session for every doctor in the Netherlands. Next to that, they offer coaching trajectories, workshops, and lectures, all with the goal of supporting the doctors in being balanced and being able to perform on the highest level. With this project, they want to create a supporting tool that can exist next to their coaching, to help even more doctors.

→ *space available for images / figures on next page*

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Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice. (max 200 words)

The problem that I want to tackle in this graduation project is that 26% of all doctors in the Netherlands are experiencing some burnout complaints. In the coming years, the pressure on doctors will increase, and more healthcare will have to be provided by fewer doctors. It is therefore important to improve the mental well-being of doctors to ensure that doctors can provide the best care for their patients.

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project (1 sentence. As you graduate as an industrial design engineer, your assignment will start with a verb (Investigate/Design/Validate/Create), and you may use the format:
(Investigate/Design/Validate/Create) a (what will be the deliverable → prototype/roadmap/process/intervention /approach/guideline/strategy/…) to (what should it do →(create/understand/evaluate/validate/improve/execute/ analyse/…) (the objective → experience/value/process/product/…) for (whom → target group/client/…) in (what context).

To design a (standalone) tool that supports the mental wellbeing of hospital doctors between the ages of 25-45 in their daily work to reduce burnout complaints.

Explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words).

To design a (standalone) tool that supports the mental wellbeing of hospital doctors between the ages of 25-45 in their daily work to reduce burnout complaints.

For this project, I want to use the double diamond method in order to design a fitting tool and with an interaction focus and human-centered approach. The start of my project consists of interviewing and observing doctors to find their needs, wishes and the design opportunities. These will help me with formulating my design goal and design criteria. The design goal is the start of the design phase, in which I want to involve the target group with co-design sessions, in order to create a fitting final design. The final design will be tested with the user group and experts for the validation of the design.

Project planning

*To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include the **Kick-off, Midterm Evaluation, Green Light** and **Finalisation** (ceremony). Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities). Add (an image of) the planning in the box below. If it is not readable, you can add the planning as an attachment to My Case along with this Proposal.*



Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some (max 5) personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology (200 words max).

My motivation for this project is my interest is to use the design methods to create a tool that helps doctors in their daily work, helping patients. The job of a doctor is complex and demanding and I would really like to contribute to an improvement in their mental wellbeing.

My personal goals for this project are:

1. Working my writing & reporting information
I can have difficulties with writing structured and coherent texts, but for my graduation report I want to make sure that everything is structured and well explained.
2. Keeping overview during the entire process
I know that planning is not one of my biggest skills, however I do want to make sure that I keep the overview of the process,
3. Co-creation session
I think my main challenge is in the design and development phase. For this project I would like to learn how to use co-creation methods in order to design together with the intended users.

Appendix B. Notes observations



Appendix C. Initial assignment

Graduation Assignment TU Delft

Development of the 'White Coats Planner' for doctors and medical students
In collaboration with Arts in Balans ("Doctor in Balance")

About Arts in Balans

Arts in Balans was founded by Milou de Graaf (organizational scientist & leadership coach) and Maarten Nuver (acute internist & intensivist). We combine coaching, leadership, and medical expertise with one mission: all doctors in the Netherlands in balance. Only a doctor who takes good care of themselves can sustainably provide the best care for others.

www.artsinbalans.nl | maarten@artsinbalans.nl | @artsinbalans

Context & Why

Being a doctor is top-level sport. Being available day and night for patients, keeping up with schedules and administration – while also being a partner, parent, or friend. The profession is wonderful, but also very demanding.

Doctors know that balance and recovery are important, but often lack a practical tool to maintain it. Coaching and workshops provide an impulse, but behavioral change requires daily routines. In practice, we see the same patterns: always pushing forward, struggling with boundaries, lacking rest and overview.

After a holiday, doctors experience how life could be – time and energy for themselves – but that feeling often fades quickly. The key question is: how can you create lasting balance without constantly needing a sabbatical or holiday?

That is why we want to develop an innovative solution together with a TU Delft graduation student: the White Coats Planner. Whether this becomes a physical, digital, or hybrid product remains open and will be determined through research. What matters is that it becomes a concrete, inspiring tool that helps doctors make conscious choices, manage energy, and maintain routines – so they can work with joy and resilience.

Objectives of the assignment

- Identify the needs, wishes, and barriers of doctors and medical students in their daily routines.
- Apply and enrich existing Arts in Balans methods with new insights.
- Positioning: how does the planner distinguish itself from existing commercial planners?
- Iteratively test prototypes with residents (ANIOS, AIOS), specialists, and medical students.
- Deliver a high-fidelity final design: a planner that supports behavioral change (90 days) and aligns with personal values and roles.
- Define the conditions for scaling and implementation.

Why this project?

- Impact: reaching doctors and medical students with a practical tool for balance.
- Innovation: combining behavioral science, design thinking, and medical context.
- Relevance: aligns with TU Delft design labs focused on healthcare.
- Popularity: concrete, socially relevant, and an attractive challenge for students.

What can the student expect?

- Enthusiastic supervision by Maarten (IC doctor) and Milou (organizational scientist & leadership coach), both experienced in healthcare and leadership.
- Access to a broad network of doctors and medical students.
- Being part of a dynamic team of coaches, medical students, and ambassadors.
- Flexible: possibility to work remotely or at our flexible workspaces in Nijkerk.
- Regular meetings and support in setting up and conducting research.
- Internship allowance (to be agreed), plus travel and expense reimbursement.

Appendix D. Interview set up & questions

Test opzet: interview
TODO (Voor de meeting):
- HREC formulier opsturen
- Weegschaal en blokjes klaarzetten
- Figma klaarzetten

Introtekst:
Bedankt voor je deelname aan mijn onderzoek. Het doel van dit interview is om in beeld te brengen waar de grootste uitdagingen zitten in het werk van een arts, maar ook wat energie geeft en wat dus vergroot mag worden. Het uiteindelijk doel van mijn afstudeeropdracht is om een tool te ontwerpen die helpt bij het vinden van balans. Daarvoor ben ik heel benieuwd hoe het is om arts te zijn en waar ik kan met mijn ontwerp kan helpen!
Informed consent laten tekenen
Vragen
- Waarom ben je arts geworden?
- Waar werk je op dit moment en welke stappen heb je in je carrière genomen om hier te komen?
- Wat betekent balans voor jou? Ben je op dit moment in balans
- Hoe ziet een gemiddelde werkdag eruit?

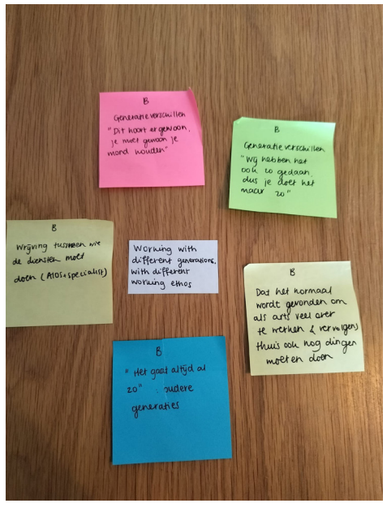
Opdracht 1:
Ik stuur je een link van een online tool. In deze tool staan allemaal factoren die van toepassing kunnen zijn in het werk van een arts. Ik zou je willen vragen om in de tool aan te klikken wat voor jou persoonlijk factoren zijn die energie of motivatie geven.
Bij elke categorie staat onderaan het open blokje. Het is dus mogelijk om zelf dingen toe te voegen, dus laat vooral weten als er wat mist en wat er dan mist.
Als je nu twee keer klikt op één van de factoren, dan kan je ook aangeven welke factoren van het leven als arts juist veel energie kosten, of die dingen zijn die je moeilijk vind of die je het werk als arts minder leuk vind maken?
Zelf een screenshot maken van de uitkomsten
- Ben je in balans? Waarom wel/ waarom niet?
- Hoe is het om te zien of je in balans bent?
- Beginnen per categorie om de blokjes te bespreken
- Specifieke blokjes bespreken
- Het valt me op dat {xx}, waarom?
- Welke categorie valt er op

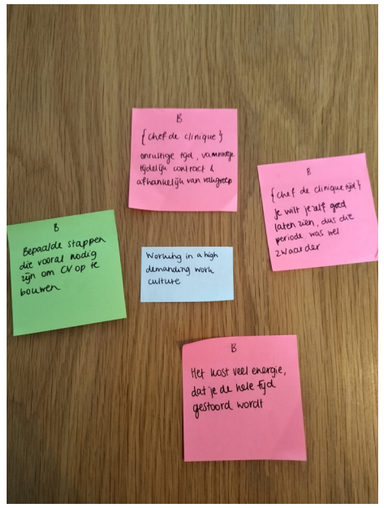
Opdracht 1a:
Op dit moment wegen alle factoren even zwaar, zijn er blokjes die je zou willen verzwaren met één of twee blokjes erbij? Welke?
- Waarom wil je deze zwaarder maken?
- Wat doet dit met de balans?
- Het valt me op dat {xx}, waarom?
- Welke categorie valt er op

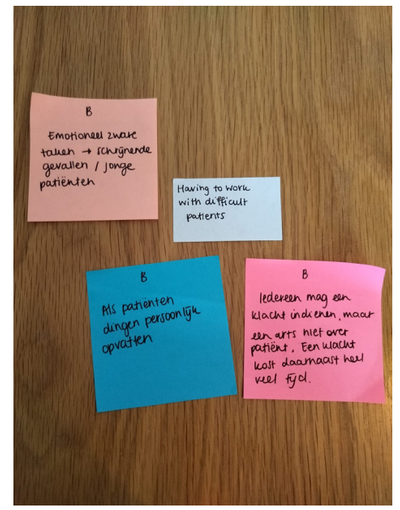
Opdracht 1a:
Op dit moment wegen alle factoren even zwaar, zijn er blokjes die je zou willen verzwaren met één of twee blokjes erbij? Welke?
- Waarom wil je deze zwaarder maken?
- Wat doet dit met de balans?
-

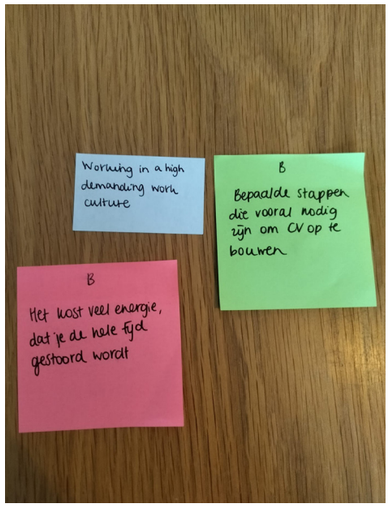
Opdracht 2:
Als je nu alle blokjes weer zou mogen toevoegen en verwijderen? Hoe zou je dan je eigen weegschaal in willen richten zodat je wel in balans bent? Hoe zou de ideale balans situatie eruit zien?
Schermafbeelding maken
- Waarom zou je specifiek deze factoren willen veranderen?
- Wat heb je nodig om van de eerste (huidige) balans situatie naar de ideale balans situatie te komen?
- Zijn er nog zaken als het gaat om balans vinden als arts waarvan je denkt dat ze nog niet aan bod gekomen zijn?

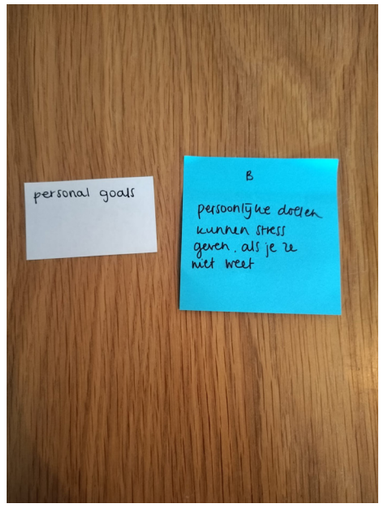
Appendix E. Clusters from interviews

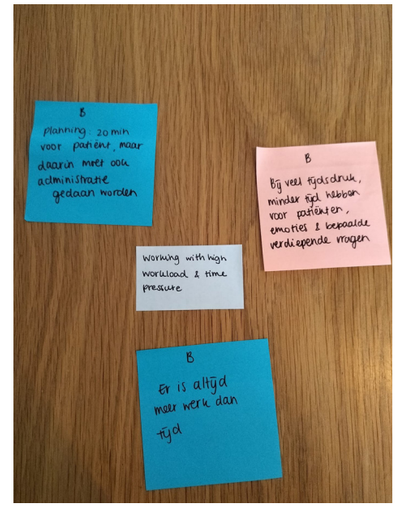


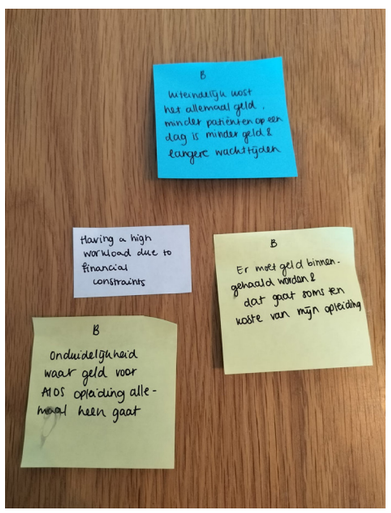


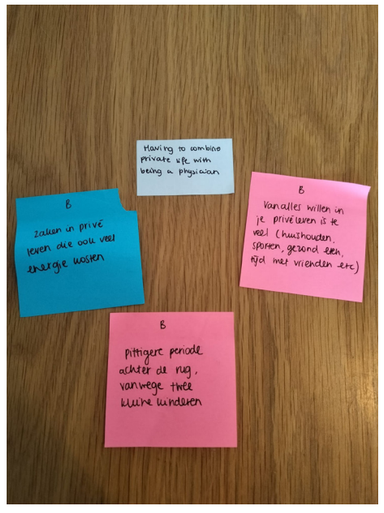


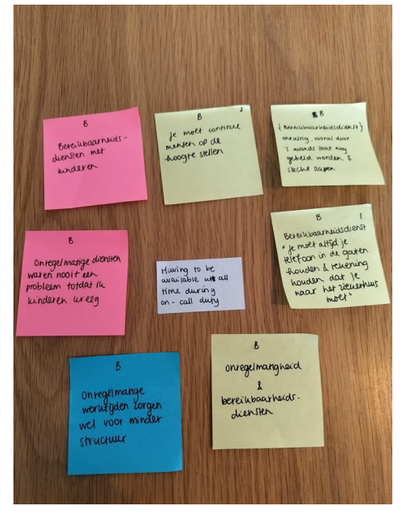


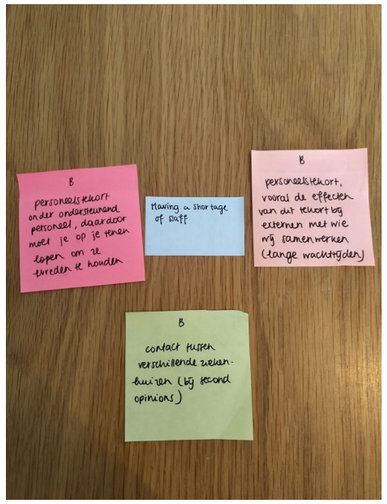


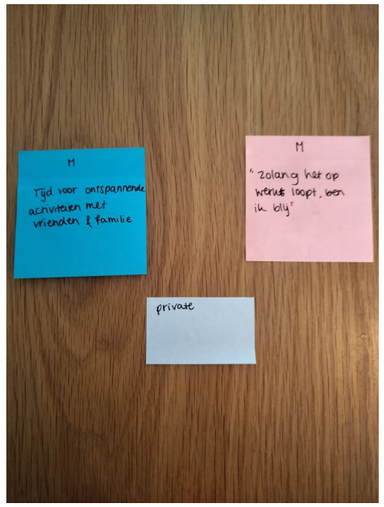


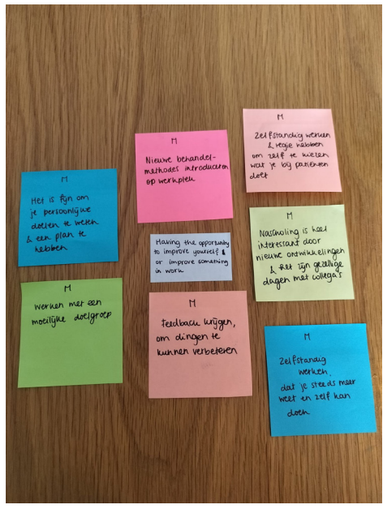


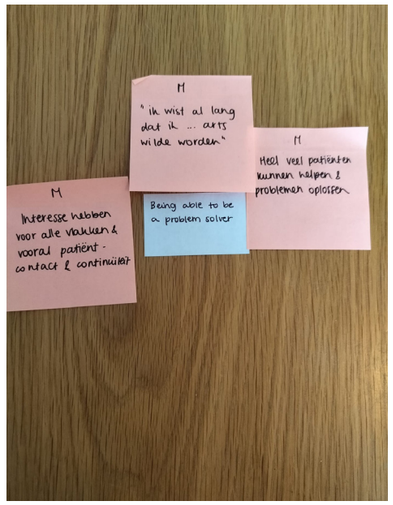


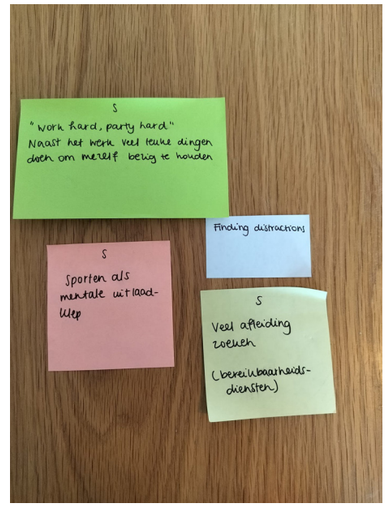


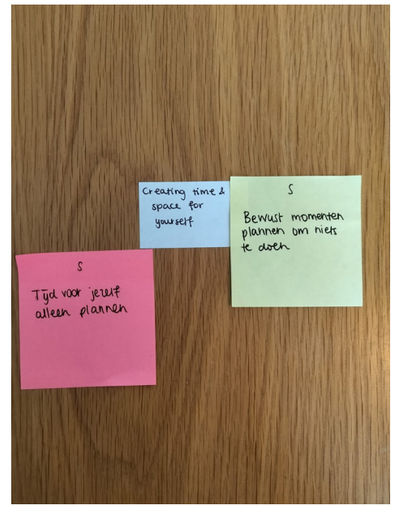

B
personeelstekort onder ondersteunend personeel, daardoor moet je op je tenen lopen om ze tevreden te houden
Having a shortage of staff
B
personeelstekort, vooral de effecten van dat tekort bij externen met wie mij samenwerken (lange wachtgolven)
B
contact tussen verschillende zorgen-kunnen (bij second opinions)

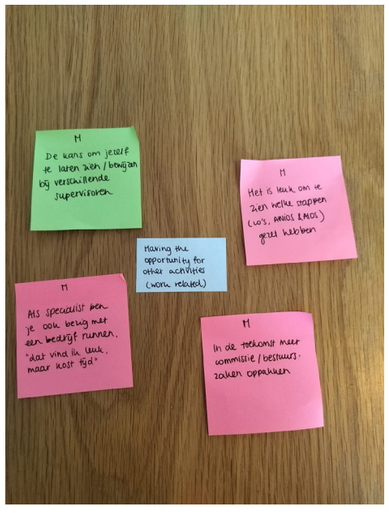

M
Tijd voor ontspannende activiteiten met vrienden & familie
M
" zolang het op wereld loopt, ben ik blij"
privaat

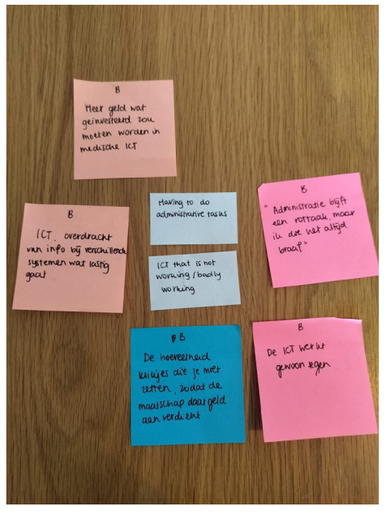

M
Het is fijn om je persoonlijke doelen te weten & een plan te hebben
M
Nieuwe behandel-methodes introduceren op werkplek
M
Zelfstandig werken & regie hebben om zelf te weten wat je bij patiënten doet
Having the opportunity to improve yourself & to improve something in work
M
Veranderingen is leuk interessant door nieuwe ontwikkelingen & het zijn gezellige dagen met collega's
M
Werken met een moeilijke doelgroep
M
Feedback krijgen, om dingen te kunnen verbeteren
M
Zelfstandig werken, dat je steeds meer weet en zelf kan doen

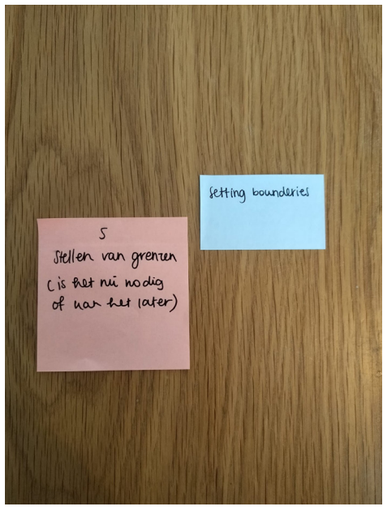

M
" ik wist al lang dat ik ... arts wilde worden"
M
Interesse hebben voor alle vakken & vooral patiënt-contact & continuïteit
Being able to be a problem solver
M
Heel veel patiënten kunnen helpen & problemen oplossen

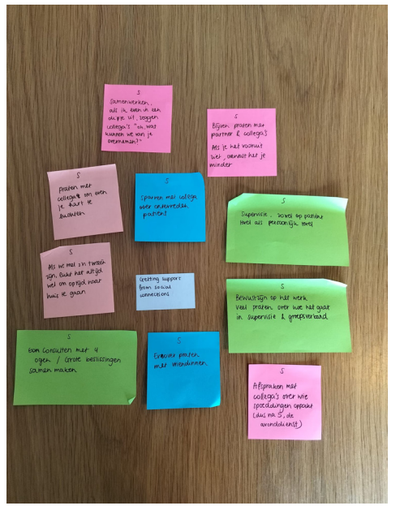

S
" work hard, party hard"
Naast het werk veel leuke dingen doen om mezelf bezig te houden
Finding distractions
S
Sporten als mentale uitlaat-klep
S
Veel afleiding zoeken (bereikbaarheids-diensten)

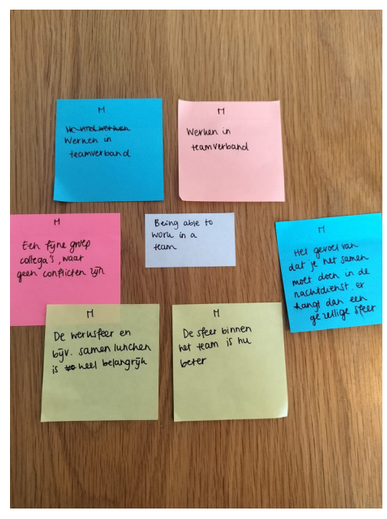

Creating time & space for yourself
S
Bewust momenten plannen om niets te doen
S
Tijd voor jezelf alleen plannen

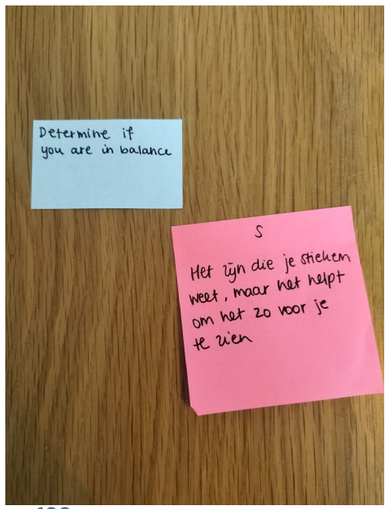

M
De kans om jezelf te laten zien / bewijzen bij verschillende supervisoren
M
Het is leuk om te zien welke stappen (i.o.'s, ANIOS & MOL) gezet hebben
Having the opportunity for other activities (work related)
M
Als specialist ben je ook bezig met een bedrijf runnen. "dat vind ik leuk, maar kost tijd"
M
In de toekomst meer commissie / bestuurs-zaken oppakken

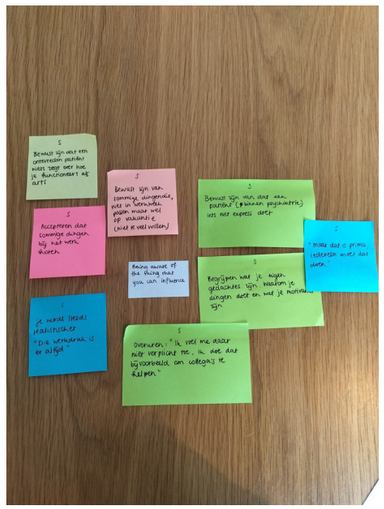

B
Meer geld wat geïnvesteerd kon worden in medische ICT
B
ICT overdracht van info bij verschillende systemen was lastig gaat
Having to do administrative tasks
ICT that is not working / badly working
B
" Administratie blijft een rotzooi, maar ik dat het altijd vroeg"
B B
De verantwoordelijkheid krijgen die je met zetten, zodat de maatschappij daarvoor geld aan verdeelt
B
De ICT werkt gewoon zoals

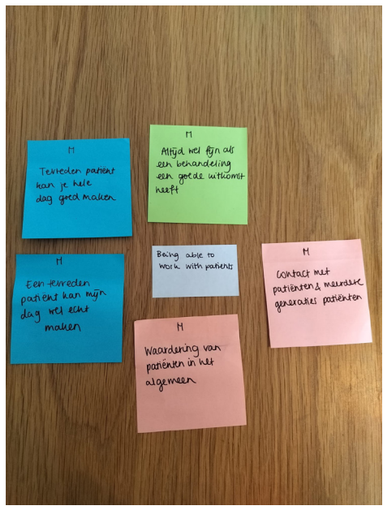

S
Stellen van grenzen (is het nu nodig of kan het later)
Setting boundaries


S
Samenwerken... als je een in een groep uit zoveel collega's "en wat kunnen we nou je interesseert?"
S
Eigen: grenzen aan partner & collega's
Als je niet voorkomt dat dominant het je minder
S
Praten met collega's om een je kunt te bouwen
S
Ervaren met collega's over casuïstiek, patiënten
S
Als we met z'n tweeën zijn, dan het altijd wel om opzicht voor hun te gaan
S
Supervisie: sociale op persoon niet als persoonlijk zien
Getting support from social connections
S
Bewustzijn te het werk wat, praten, over wat het gaat in supervisie & gesprekken
S
Een consulten naar je eigen / eigen beslissingen samen maken
S
Contact praten, met studenten
S
Afspraken met collega's over wie (spoed)diensten oppakt (als na 5 de avonddienst)

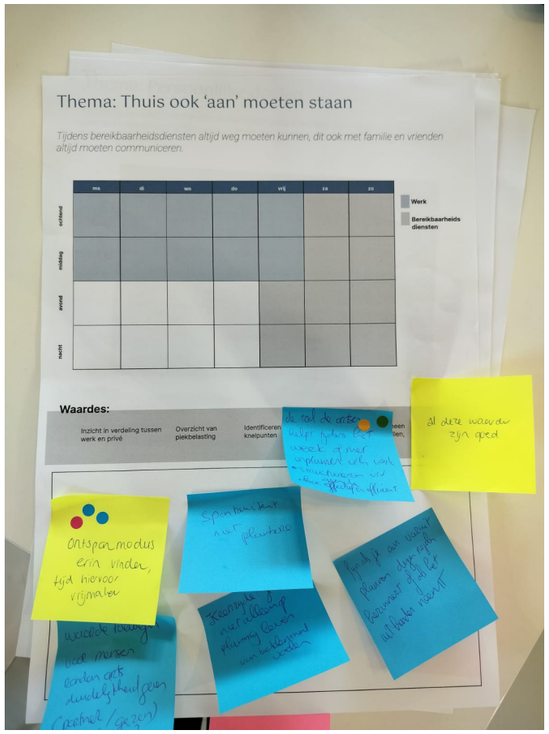

M
Het ontwikkelen Werken in teamverband
M
Werken in teamverband
Being able to work in a team
M
Een fijne groep collega's, maar geen conflicten tijn
M
Het gevoel van dat je het samen moet doen in de nachtdienst of daarna dan een gezellige sfeer
M
De werksfeer en bijv. samen lunchen is wel heel belangrijk
M
De sfeer binnen het team is nu beter

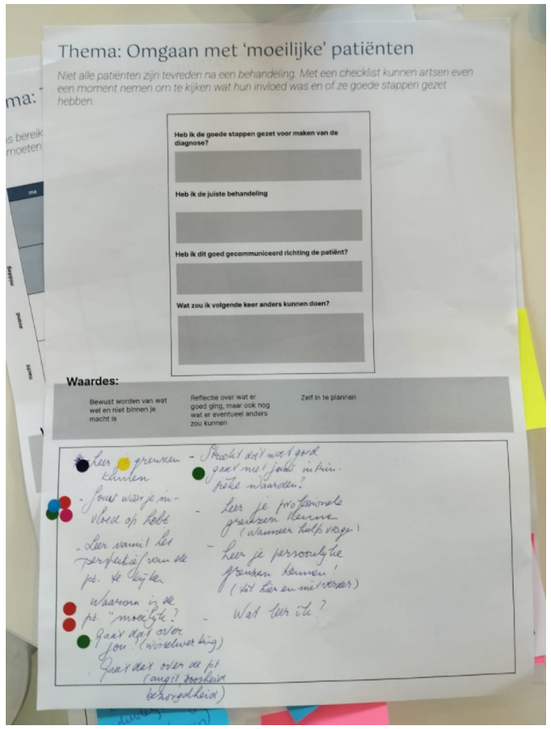

Determine if you are in balance
S
Het zijn die je stiekem weet, maar het helpt om het zo voor je te zien

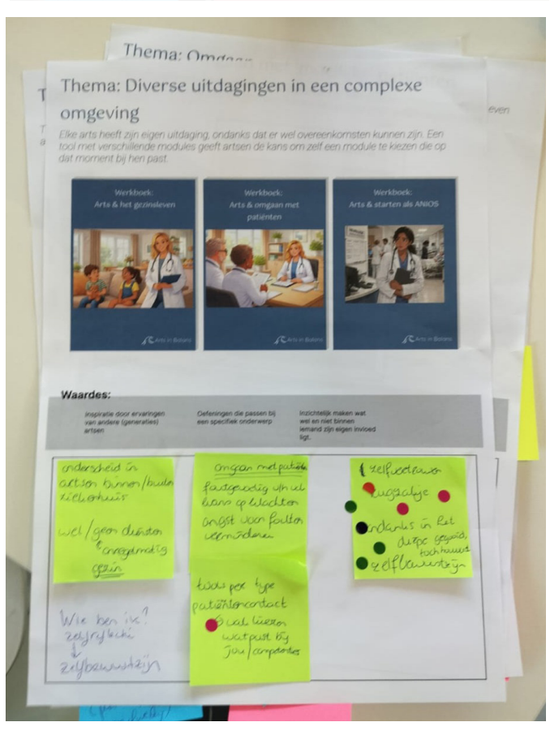

S
Bewust zijn wat een opmerken anderen vinden leuk over mij, ik functioneer als arts
S
Bewust zijn van commissie aangaande, ook in formatie, praten maar wel op zakelijke (niet te veel willen)
S
Accepteren dat sommige dingen bij het werk horen
S
Bewust zijn van deze aan, positief (waarom gesprekjes) iets niet expres doet
S
Bewust zijn wat je eigen grenzen zijn, waarom is dingen doet en wat je motiveert zijn
Being aware of the thing that you can influence
S
Je moeilijk steeds realistischer "Die verwachting is er altijd"
S
Overleven: " Ik vind het altijd fijn voorbereid om collega's te komen"

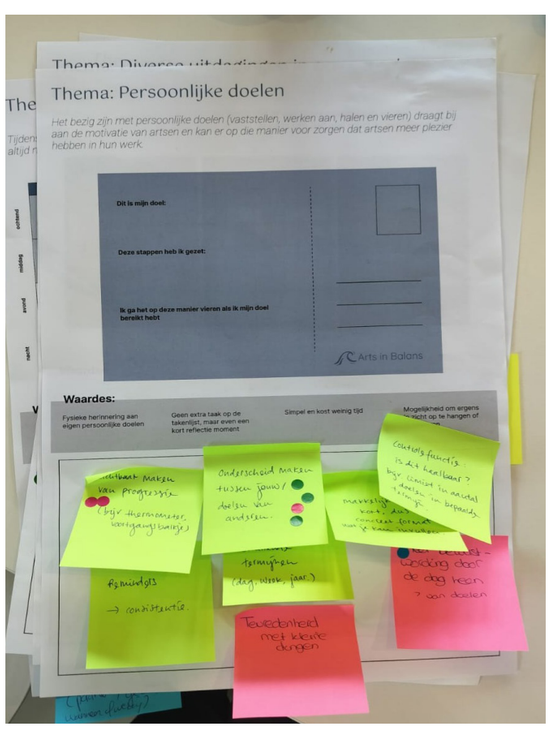

M
Tevreden patiënt kan je hele dag goed maken
M
Altijd wel fijn als een behandeling een gewilde uitkomst heeft
M
Een tevreden patiënt kan mijn dag wel echt maken
Being able to work with patients
M
Contact met patiënten & meerdere generaties patiënten
M
Waardering van patiënten in het algemeen

Appendix F. Focus group results





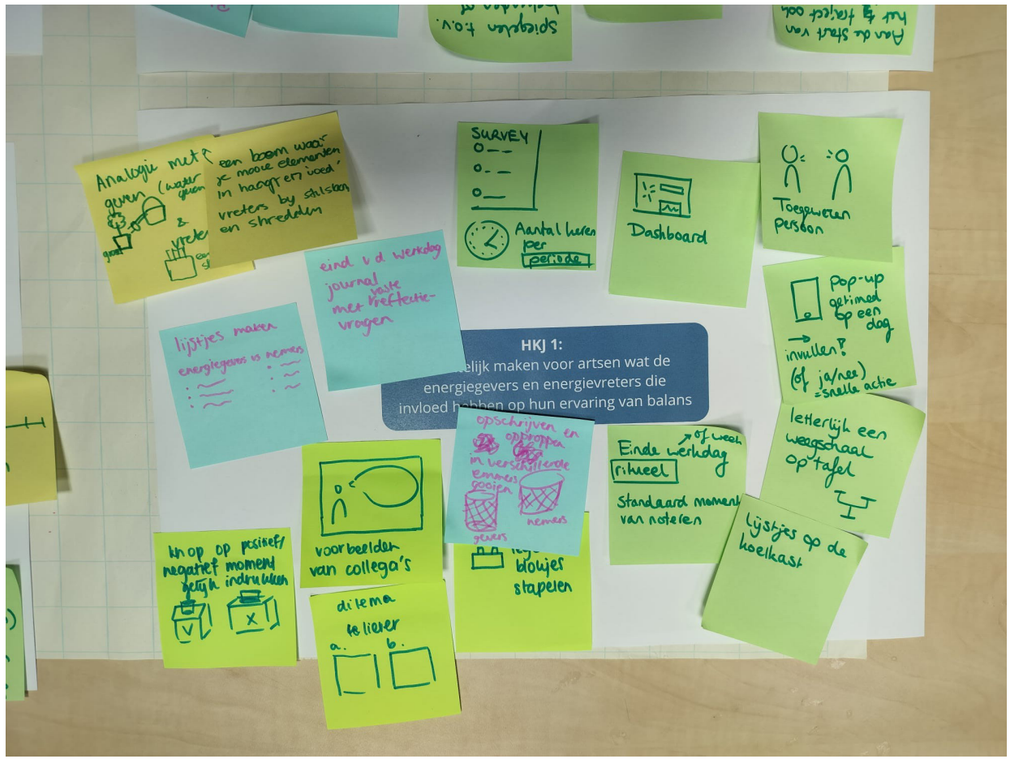


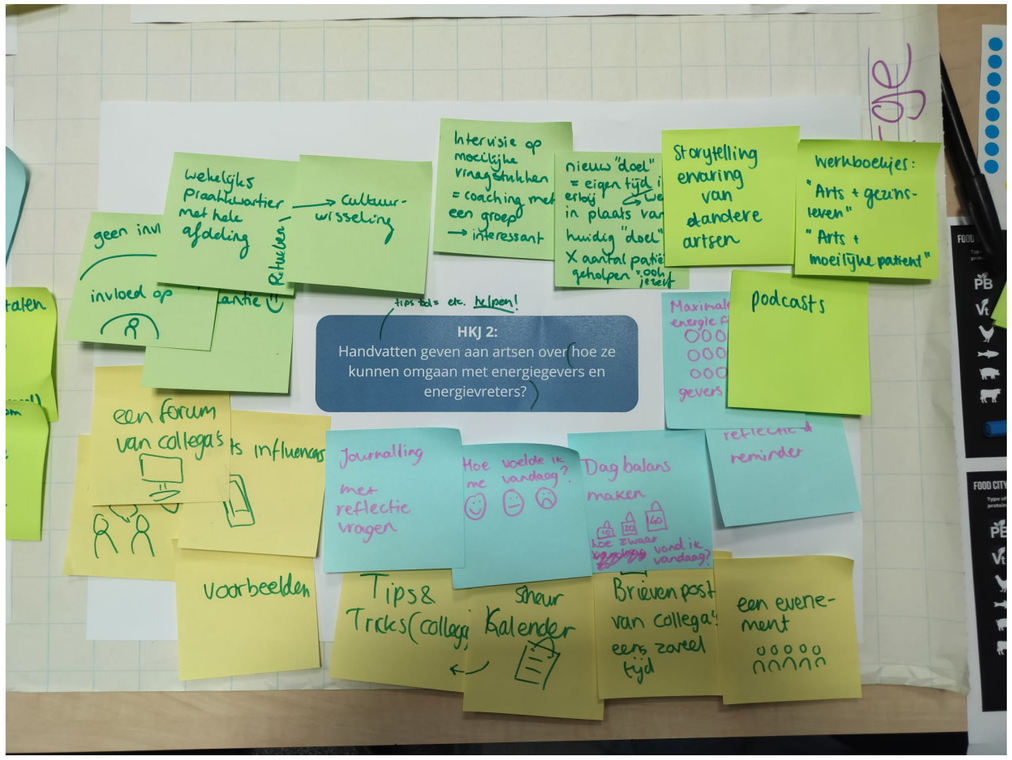


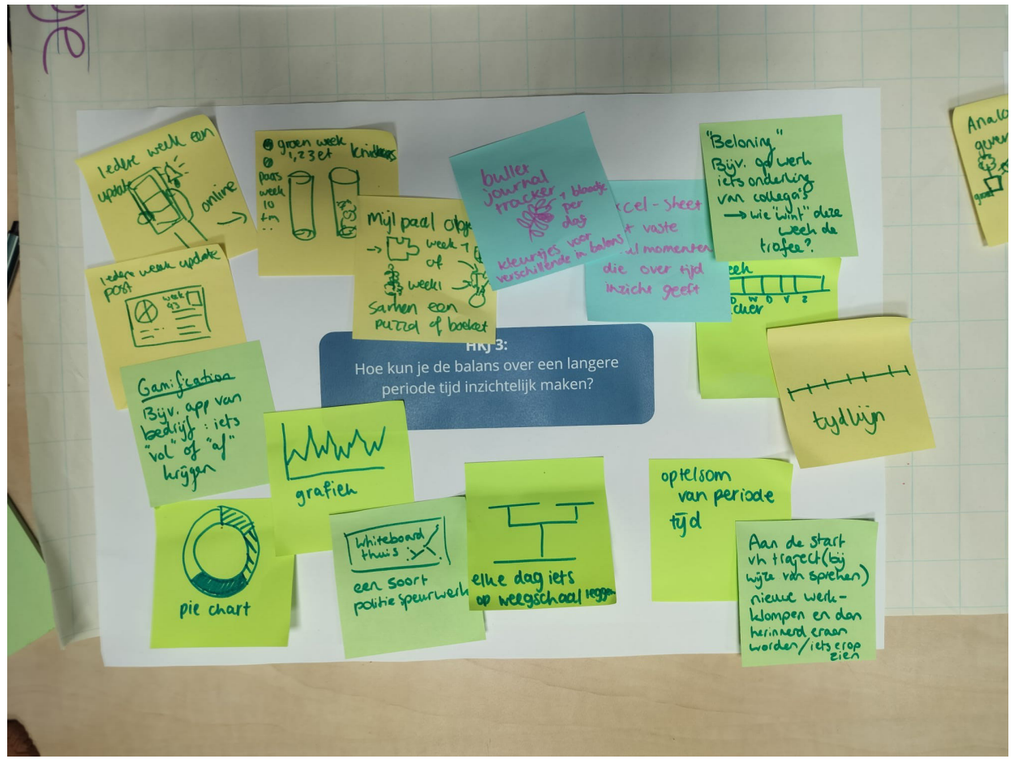
Appendix G. Notes from user testing

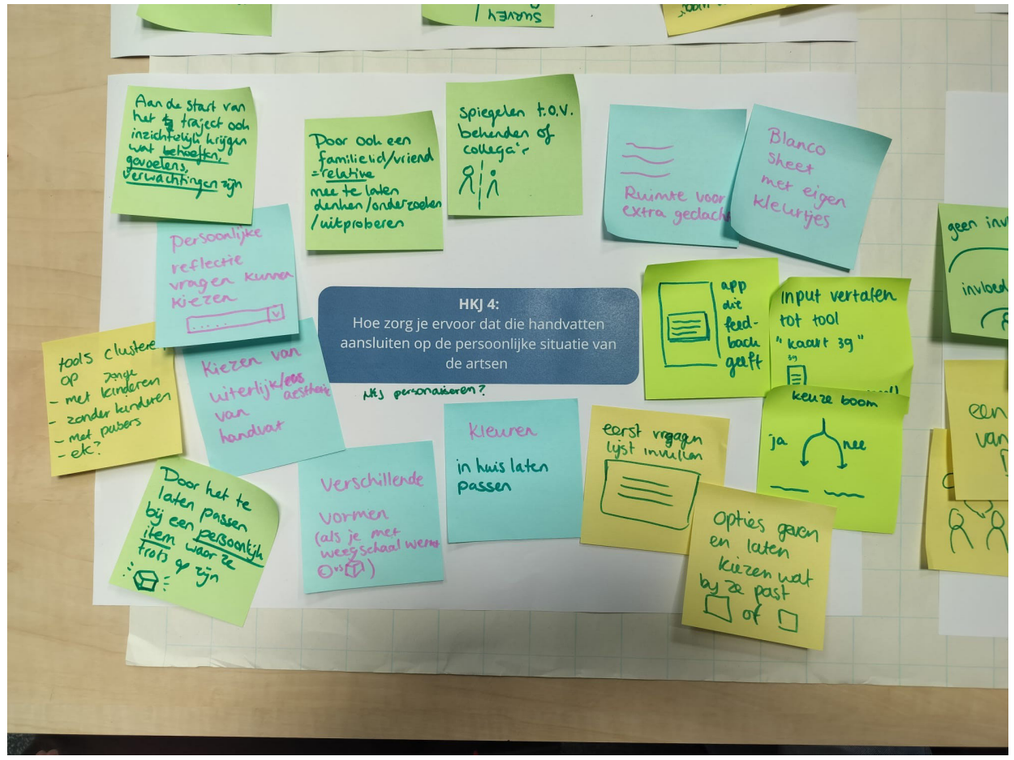


Appendix H.1: Co-creation: How-tos



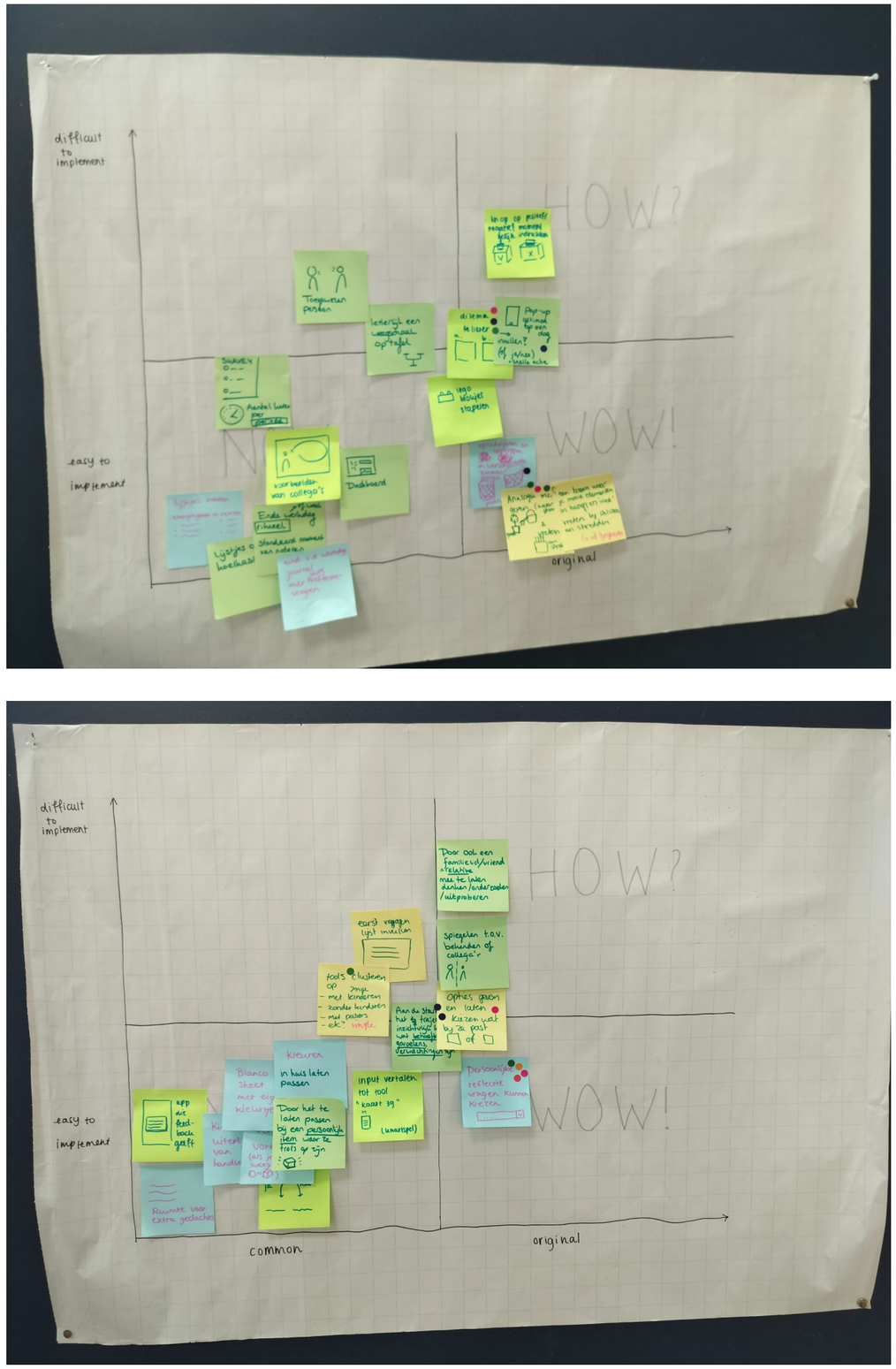




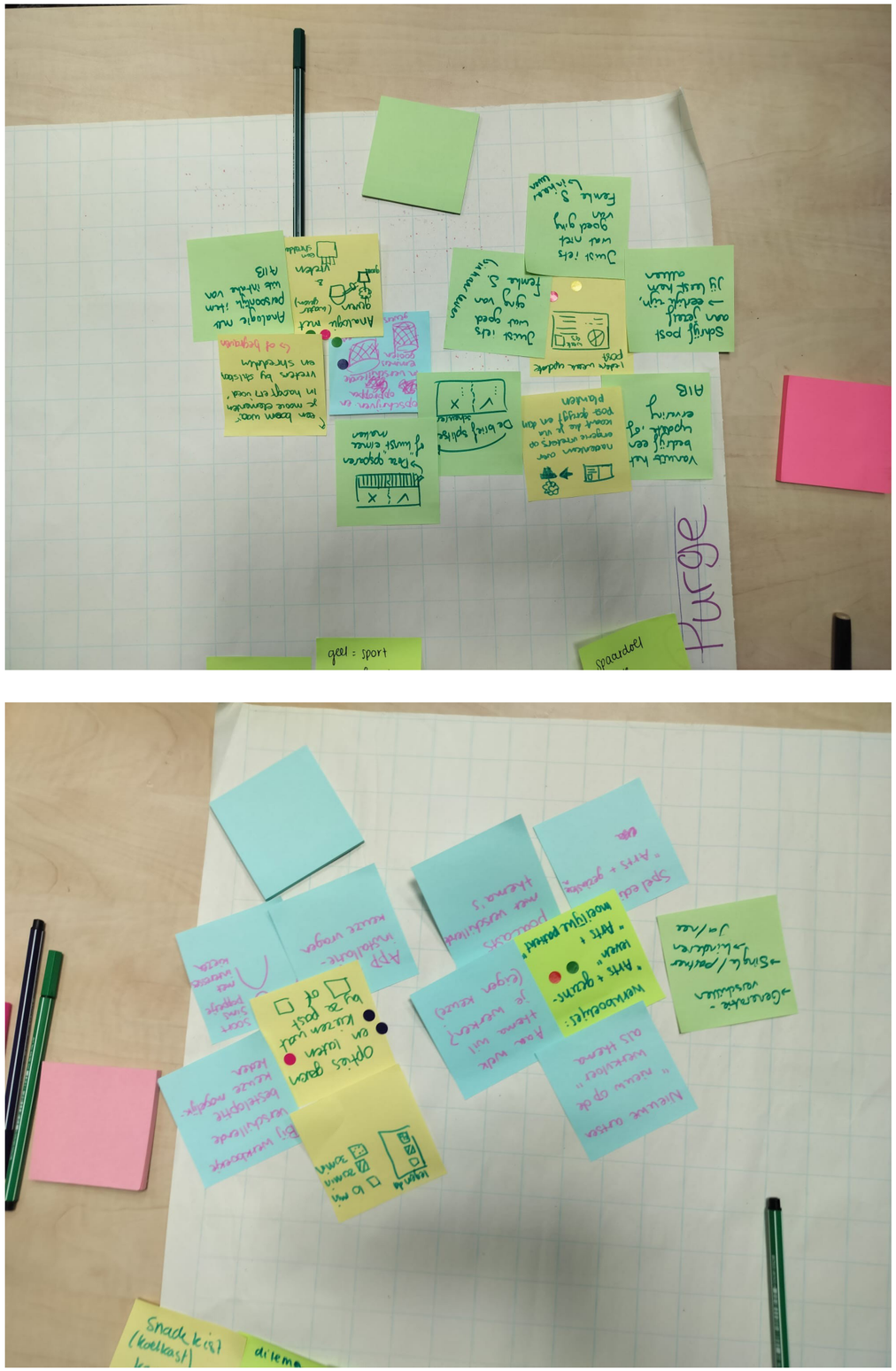


Appendix H.2: Co-creation: C-box

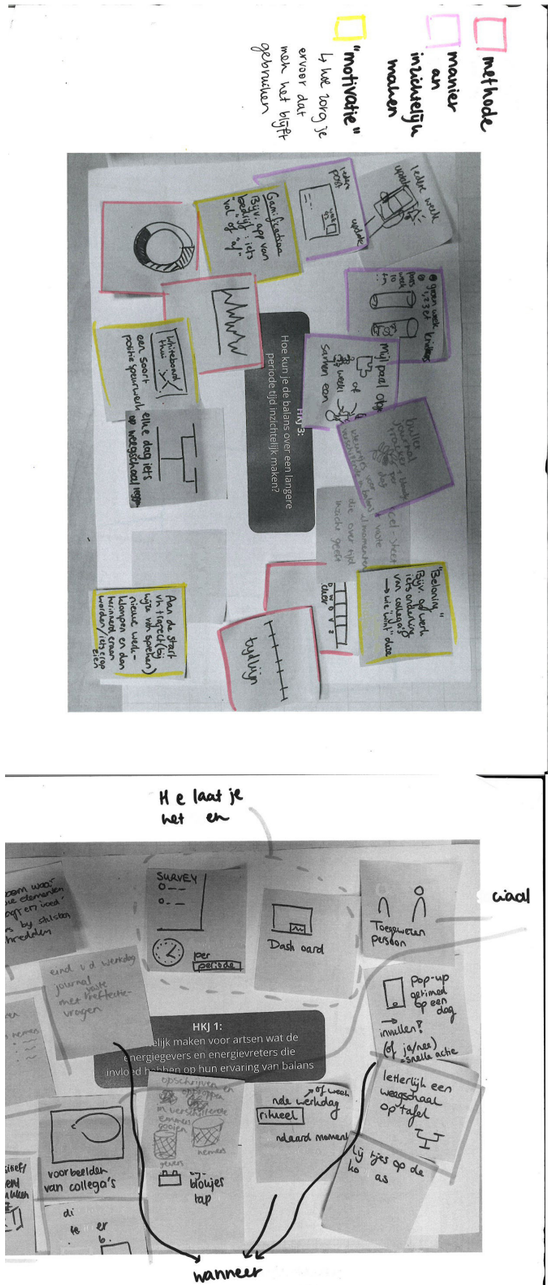


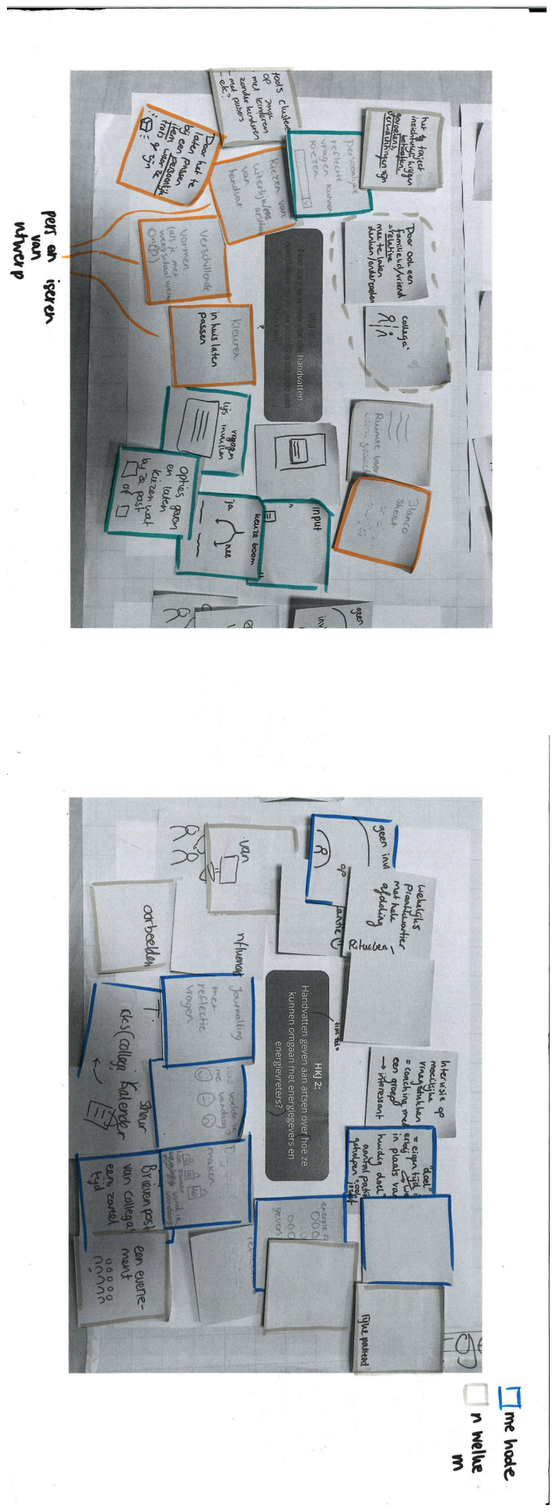


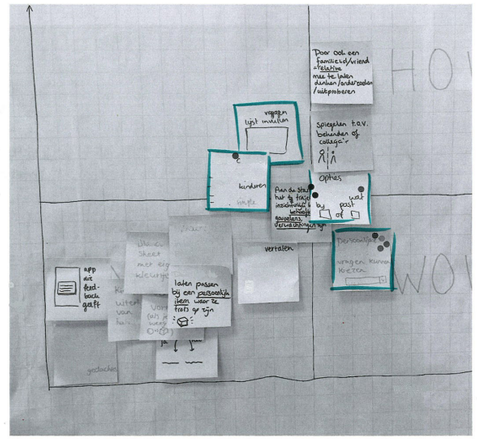
Appendix H.3: Co-creation: Brainwriting

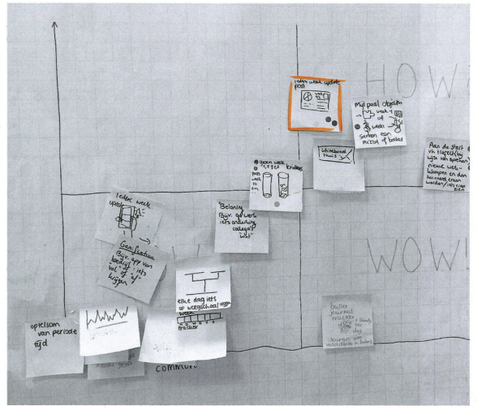


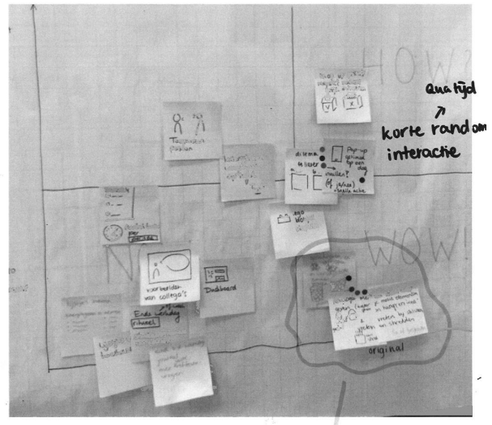
Appendix H.4: Co-creation : Analysis

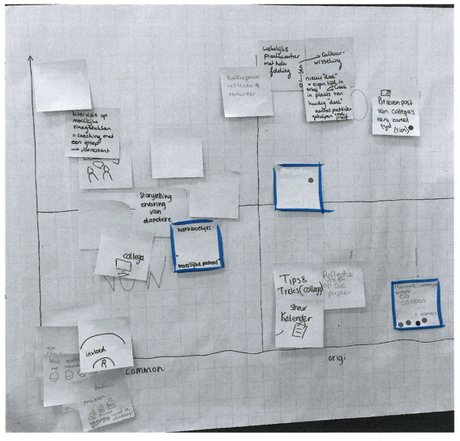


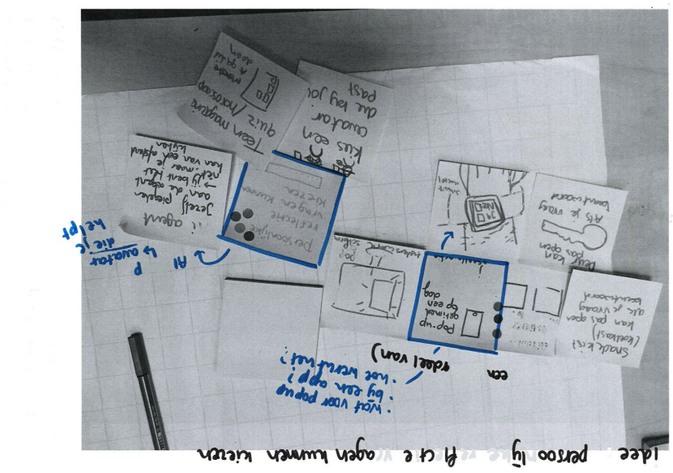


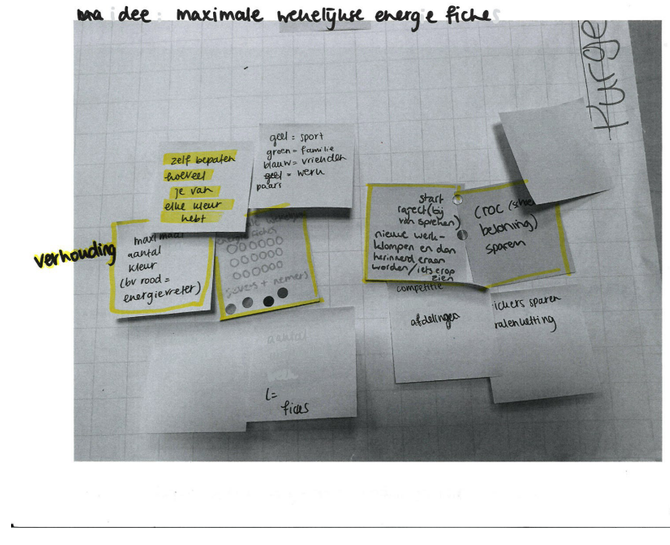


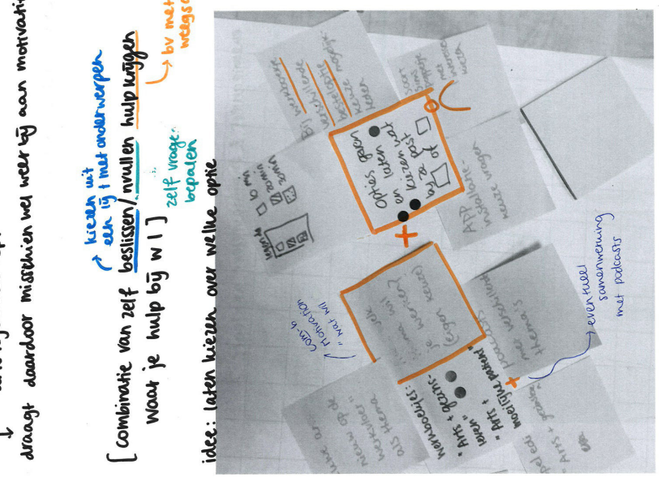











idee: laten kiezen over welke optie
kiezen uit
een lijst met onderwerpen
combinatie van zelf beslissen/invullen hulp krijgen
zelf vragen bepalen
bv met weegschaal
waar je hulp bij wilt
Opties gaan
Combo
" Hoi Gijs
Wat wil
Hoi Gijs
Wat wil
Hoi Gijs
Wat wil

- Met een timer erop.

Waar het me aan doet denken, is een scheurkalender in de wc.

Kun je een scheurkalender erbij ontwerpen die elke dag een formulier heeft voor de kaart die erbij zit?

Ik heb het ervaren alsof je de weegschaal bij de arts in balans zet en dan de kaarten echt zelf thuis doet. Dus dan valt het ook wel mee met wat je mee naar huis neemt.

Inspiratie halen uit:

- Kleuters aan het huiswerk krijgen
- C&C prompts, of daar niet dingen zitten die je kan gebruiken
- Postkaarten gebruiken en die naar jezelf versturen, en die krijg je dan een week later terug.
- Beloningen geven, zodat je een beloning krijgt als je de kaart af hebt (bijvoorbeeld een foto van je gezin achter de foto, die weer zichtbaar wordt als je de kaart af hebt).

Aantekeningen tijdens de test :

Gebruiksaanwijzing

“je balans” veranderen in “mentale balans”

Zinnen korter maken, voor leesbaarheid (pagina 3, de eerste zin)

“Moet ik dan met kaart één beginnen?”

Tekst ook meer omschrijven vanuit het perspectief van de gebruiker

De gewichtjes zijn niet helemaal duidelijk vanuit de speluitleg

“Kaart doornemen” = “voorkant van de kaart doornemen”

Op kaart 1 en 2 missen de vakjes op de voorkant

“Het is moeilijk wat ik precies wil met een kaart, hoe ik de kaarten in moet delen.”

Wanneer is iets precies positief en wanneer is het juist negatief. (bijvoorbeeld, zelfcompassie heb ik niet genoeg, is dat dan negatief?)

Ook omdat de termen zelf (slaap en zelfcompassie) al positief overkomen

Handig om ervoor te zorgen dat de omschrijving zowel positief als negatief is.

Volgorde maakt wel een beetje uit (als je eerst veel negatieve kaarten plaatst, voelt het wel echt minder goed)

Weegschaal is bij zes gewichten per kant wel een vol

Hoe was dit om te doen? (na het plaatsen van alle kaarten op de weegschaal)

Even zoeken hoe dit was, 15 kaarten voelt wel als veel

Dat het scoreblad vastzit is wel irritant, dat maakt het schrijven moeilijk

Kaarten selecteren voor in het doosje

“je balans” in plaats van “mentale balans”

“extra hulp” in plaats van “extra help”

Wat de voorkant en wat de achterkant van de kaart is, is niet duidelijk in de uitleg.

Onderste deel van de kaart is slecht leesbaar, wanneer deze in het doosje wordt gedaan

Opletten dat de actiestap niet iets negatiefs is.

Timeframe meegeven, dus hoe lang je er ongeveer over doet om een kaart te gebruiken

Doosje mag meer de aandacht trekken

Reflectiestap toevoegen:

- Nu
- Na een week
- Later/erna

Validatie P2:

Kun je een situatie omschrijven van de afgelopen week waarin je één van de kaarten hebt gebruikt?

Na vijf dagen het gaan gebruiken en toen stilgestaan bij de reflectievragen.

Hoe vond je het om het te gebruiken?

Ik vond het op de weegschaal plaatsen en de kaarten erin stoppen, heel nice. Want het is heel visueel en inzichtelijk, zonder er te veel lading aan te geven. Zonder zelf te moeten analyseren waar je mee zit, dus dat je niet een specifiek probleem hoeft te benoemen. Ik vond de fase waarin de kaartjes in de houder zitten en men er dan mee aan de slag gaat. Toch wel wat moeilijk. De negatieve kant stond naar mij toe en daardoor heb ik niet naar de positieve kant gekeken. Zeker omdat er dan verwacht wordt dat je twee stappen uitvoert. Eigenlijk wil je ze alle twee tegelijkertijd zien.

De reflectievragen vond ik heel nice, de actiestap vond ik te hoogdrempelig. (Zelfcompassie als negatieve kaart). De vragen daarvoor zijn heel klein, afgebakend en constructief.

De actiestap van de positieve kant heb ik niet naar gekeken, maar die is dus niet relevant. De reflectievragen zijn ook deels negatief, en ze zijn niet helemaal neutraal.

In een drukke week kost het wel energie.

Het wennen is wel relatief snel duidelijk dat er iets in de ruimte staat, dus op een gegeven moment zie je het niet meer heel bewust. Het stond niet in de weg. Het voelde niet als rommel. De trigger voor het gebruik is dus niet heel groot. Ik moest er echt een bewust moment voor maken.

Hoe heb je de reflectiestappen aangepakt

De vragen heb ik alleen mentaal beantwoord.

Zou het helpen om op te schrijven

Het zou misschien wel meer helpen, maar dan wordt de drempel ook wel hoger.

Heb je het idee dat je verschil merkt na het gebruik van de kaarten?

Nee, ik denk het niet. Niet in deze korte periode.

Hoe is het om zowel met een positieve als met een negatieve kaart aan de slag te gaan?

Heb ik niet helemaal gedaan. Met de weegschaal was het wel heel interessant, maar omdat de negatieve kant naar voren stond, heb ik alleen naar de negatieve kant gekeken.

Is het gemakkelijk om met de kaarten aan de slag te gaan?

	Stronly disagree	Disagree	Neutral	Agree	Strongly agree
De tool geeft inzicht over de huidige werk-privé balans situatie.	○	○	○	●	●
De tool helpt me bij het begrijpen van welke factoren invloed hebben voor mijn energieniveau	○	○	○	●	○
De tool is laagdrempelig te gebruiken	○	○	○	●	○
De tool motiveert om met de kaarten aan de slag te gaan	○	○	○	○	●
De tool helpt met het identificeren van energievreters en energiegevers	○	○	○	○	●
Het is waarschijnlijk dat ik de tool zou gebruiken	○	●	○	○	○
De manier waarop de informatie gecommuniceerd wordt is waardevol	○	○	○	●	○
De tool helpt om aan de slag te gaan met het verbeteren van bepaalde onderwerpen	○	○	○	●	○

Deels, aan de slag gaan met de reflectievragen is heel laagdrempelig en fijn, omdat de vragen kort en simpel zijn. De actiestap vraagt wel wat meer. De actiestappen zouden minder hoogdrempelig zijn, als je de actiestap direct kan uitvoeren.

Doelenkaart: 3 doelen is ook al best wel veel

Of je toch actiestappen kan upgraden.

Wat zijn de barrières voor het gebruiken van de kaartenset?

Tijd maken, vaak ben je toch bezig met wat anders en dan zie je hem wel staan, maar ben je toch met wat anders bezig. Misschien zou het helpen als je er 5 minuten van je werk voor krijgt.

Hoe ervaar je het werken met de negatieve kaart?

Omdat mijn negatieve kaart, positief verwoord is, vond ik het fijn om mee te werken.

De vragen hadden een vrij positieve insteek.

Hoe ervaar je het werken met de positieve kaart?

Niet mee gewerkt

Stimuleert de kaartenset je om iets te veranderen in je gedrag?

Niet in het gedrag, maar wel een beetje in de manier van denken. Zeker omdat ik niet met de praktische stap aan de slag gegaan ben.

Ben je afgelopen week bewuster geweest van je mentale welzijn?

Ja, niet superveel. Maar de momenten die ik heb gepakt zijn al meer dan ik normaal gesproken zou pakken.

De weegschaal heeft daarin wel veel impact. Zeker omdat het echt een 'moment' is en je bewust ermee bezig gaat. De kaarten erin stoppen is meer passief bijhouden. En we hebben nu niet echt gebruik van de scorekaart. Vooral voor mensen die van data houden, maar het ook wel weer fijn afstandelijk, omdat je het kan kwantificeren. Het risico is wel dat er een plusje kan worden uitgewisseld voor een minnetje en dat zie je dan niet per se. (bijvoorbeeld minder eenzaamheid, kan voor meer stress zorgen)

Aangeven dat er ook negatieve dingen mogen zijn.

In welke situatie lijkt het gebruik van de kaarten waardevol?

Vooral als je toch een beetje in de knoop zit en het zelf niet zo goed kan duiden. Als je al weet dat je stress door een aankomend tentamen komt, dan heeft het niet echt nut.

Anders helpt het wel met het visueel maken.

Aantekeningen na user test:

Gebruiksaanwijzing

"balans" = "mentale balans"

De weegschaal en kaartenset 'knopje' voelen nu een beetje random.

Visueel laten zien dat de kaart in het gewicht wordt geplaatst.

Invloed voor je heeft = Invloed op je heeft

De verschillende kanten van de weegschaal zijn niet heel duidelijk in de uitleg (rood en groen toevoegen)

De verschillende categorieën uitleggen in de speluitleg

"Ik heb de neiging om door alle kaarten te scrollen & op volgorde te zetten", het nummer doet wel wat

Scoreblad

De ++, +, -- en – ook toevoegen op de balkjes

Volgorde was eerst een aantal negatieve kaarten

Er is ook gewenning van de kaarten in de weegschaal te plaatsen, maar de optie om een kaart niet te plaatsen vergeet ik een beetje

Hoe was het om dit gebruiken?

Confronterend, maar het geeft ook handen en voeten

Alle chaos wordt wel inzichtelijk hierdoor

Ook de positieve dingen zijn wel interessant.

Het is ergens wel fijn dat er geen plaatje op de kaart staat, want dat zorgt ervoor dat de kaarten ook vrij neutraal blijven, omdat het daardoor geen waarde krijgt.

Scoreblad schrijft niet handig

Deel twee: Balanskaarten

De balans = je balans

Achterkant van kaarten toevoegen

Weegschaal op de voorkant, denkwolk op de achterkant

Wat gebeurd als je geen positieve kaart hebt?

Op zijn zijde = zet het doosje rechtop

	Stronly disagree	Disagree	Neutral	Agree	Strongly agree
De tool geeft inzicht over de huidige werk-privé balans situatie.	○	○	◔	○	○
De tool helpt me bij het begrijpen van welke factoren invloed hebben voor mijn energieniveau	○	○	○	◔	○
De tool is laagdrempelig te gebruiken	○	○	◔	○	○
De tool motiveert om met de kaarten aan de slag te gaan	○	○	◔	○	○
De tool helpt met het identificeren van energievreters en energiegevers	○	○	○	○	◔
Het is waarschijnlijk dat ik de tool zou gebruiken	○	○	○	◔	○
De manier waarop de informatie gecommuniceerd wordt is waardevol	○	○	○	◔	○
De tool helpt om aan de slag te gaan met het verbeteren van bepaalde onderwerpen	○	○	○	○	◔

Neem een week tijd = neem een week de tijd

Hulp, + die bestaat uit de vragen en actiestap

Kies en positieve en negatieve kaart + waarmee je aan de slag wilt gaan

Tips toevoegen wanneer je de kaarten kan gebruiken

Plus en min toevoegen aan het doosje

Vragen zijn fijn, omdat je dan toch een stap dieper gaat dan alleen de balans opmaken

Reflectievragen helpen ook wat meer om onderwerp meer in brokjes op te splitsen, net als de weegschaal ook doet

De actiestap, 3x in de week bewegen is misschien ook al wel te veel, dan wordt de drempel al te hoog, 1x zou al beter zijn

Losse kaart/boekje met extra actiestappen, dat je er meer vervolg aan kan geven

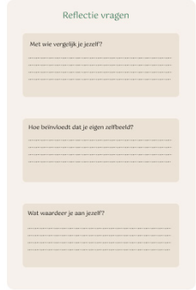
Appendix J: Student cards

The set of student cards was developed to test the interaction with users. The set was made with the input of AI for the questions and information on the cards.





















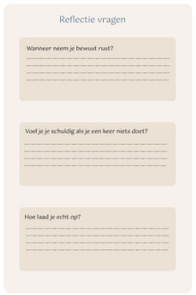


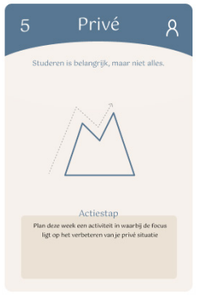










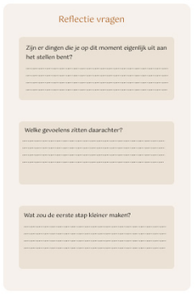




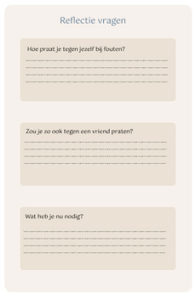












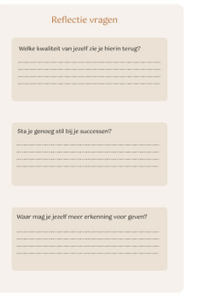












Appendix K. Balance cards

Omgaan met ingrijpende situaties

Ingrijpende situaties kunnen veel energie vragen door emoties, onzekerheid en betrokkenheid. Er ruimte voor maken en de ervaring kunnen delen of verwerken kan helpen om energie terug te krijgen.

Omgaan met ingrijpende situaties

Reflectievragen

1. Welke soorten situaties raken jou doorgaans het meest?
2. Wat merk je aan jezelf tijdens en na een ingrijpende situatie?
3. Geef je jezelf genoeg ruimte om geraakt te zijn, of ga je vaak snel weer door?

Actiestap

Vraag na één heftige situatie aan iemand die erbij was: 'Hoe was dit voor jou?' en deel ook hoe het voor jou was.

5 min

Omgaan met fouten en complicaties

Een fout of complicatie kan onzekerheid en schuldgevoel oproepen, maar ook een waardevol leermoment zijn. Kun je eruit halen wat je ervan kunt leren, zonder te blijven vastzitten in wat er misging?

Omgaan met fouten en complicaties

Reflectievragen

1. Wat kan een fout of complicatie jou brengen, bijvoorbeeld in inzicht, groei of vakmanschap?
2. Wat helpt jou om na een moeilijke situatie de energie en het vertrouwen weer terug te vinden?
3. Wanneer helpt terugkijken op wat er is gebeurd je verder, en wanneer merk je dat je er vooral energie aan blijft verliezen?

Actiestap

Vraag na een moeilijke situatie een collega om één ding dat je goed hebt aangepakt en één ding dat je een anders zou kunnen doen.

5 min

Werkplezier

Plezier en voldoening in het werk kunnen een belangrijke bron van energie zijn. Wanneer werkplezier langere tijd ontbreekt, kan werken juist meer energie kosten dan opleveren.

Werkplezier

Reflectievragen

1. Welke momenten in je werk geven je momenteel plezier of voldoening?
2. Wanneer voelde jij voor het laatst: hiervoor ben ik dokter geworden?
3. Wat zou ervoor zorgen dat je werk de komende tijd iets leuker of prettiger wordt?

Actiestap

Plan of zoek deze week bewust één extra activiteit op waarvan je weet dat die je energie geeft.

5 min

Omgaan met stress

Stress kan je energie tijdelijk verhogen en helpen om alert en daadkrachtig te zijn. Aanhoudende of hoge stress kan juist energie kosten en leiden tot vermoeidheid, spanning en minder herstel.

Omgaan met stress

Reflectievragen

1. Wanneer merk je dat stress jou helpt daadkrachtig te zijn?
2. Wat helpt jou om spanning zo te benutten dat het je energie geeft in plaats van kost?
3. Wanneer helpt stress je vooruit, en wanneer houd je jezelf misschien te lang voor dat je het nog prima aankunt?

Actiestap

Probeer bij het eerstvolgende stressvolle moment eens bewust drie keer diep in en uit te ademen.

1 min

Ontspannen en herstellen

Ontspanning en herstel helpen om energie opnieuw op te bouwen na inspanning. Wanneer herstel onvoldoende lukt, kan vermoeidheid zich opstapelen en steeds meer energie kosten.

Ontspannen en herstellen

Reflectievragen

1. Waaraan merk je dat je voldoende aan het herstellen bent?
2. Welke activiteiten of momenten geven jou doorgaans energie of rust?
3. Wat gebeurt er als je jezelf geen ruimte geeft om te herstellen, wat kost je dat uiteindelijk?

Actiestap

Probeer eens elke dag 10 minuten helemaal niks te doen. Leg je telefoon weg en kijk uit het raam of sluit je ogen.

10 min

Samenwerken binnen multidisciplinaire teams

Goede samenwerking kan energie geven door steun, gezamenlijkheid en het delen van verantwoordelijkheid. Misverstanden, conflicten of het gevoel er alleen voor te staan kunnen juist energie kosten.

Samenwerken binnen multidisciplinaire teams

Reflectievragen

1. Welke rol heb je meestal in binnen een multidisciplinair team?
2. Wanneer verloopt de samenwerking voor jou soepel en wanneer minder?
3. Waar neem je in een team gemakkelijk ruimte in, en waar zou je dat meer mogen doen?

Actiestap

Geef één collega concreet terug wat je in jullie samenwerking waardeert en waarom.

5 min

Zingeving

Ervaren dat je werk betekenisvol is, kan een sterke bron van energie en motivatie zijn. Wanneer het werk minder aansluit bij wat je belangrijk vindt, kan dit energie en betrokkenheid verminderen.

Zingeving

Reflectievragen

1. Welke aspecten van je werk voelen voor jou betekenisvol?
2. Welk onderdeel van je werk zou je missen als het morgen wegviel? En welk onderdeel totaal niet?
3. Welke waarde(n) vind jij belangrijk om in je werk tot uiting te brengen?

Actiestap

Kies één betekenisvol onderdeel van je werk en maak daar deze week bewust nét iets meer ruimte voor.

15 min

Ontwikkelen en het hebben van ambitie

'Ik wil blijven groeien en mezelf uitdagen, maar wanneer wordt ambitie vooral een moeten?' Ontwikkeling kan energie geven, terwijl te hoge verwachtingen juist druk en energieverlies kunnen veroorzaken.

Ontwikkelen en het hebben van ambitie

Reflectievragen

1. Waar ben je op dit moment nieuwsgierig naar of wil je je verder in ontwikkelen?
2. Wanneer geeft ambitie jou energie en wanneer vraagt het juist veel van je?
3. Wanneer is iets voor jou eigenlijk goed genoeg, of schuif je de lat steeds weer verder op?

Actiestap

Maak twee lijstjes: 3 doelen die je hebt behaald en 3 doelen waar je naartoe wilt. Kies daarna één toekomstig doel en noteer een eerste kleine stap.

15 min

Balans tussen werk en privé

Werk, gezin, sociale contacten en tijd voor jezelf vragen allemaal ruimte. Een goede balans kan energie geven, terwijl één gebied dat structureel te veel ruimte inneemt ten koste kan gaan van herstel.

Balans tussen werk en privé

Reflectievragen

1. Hoe ziet de verdeling tussen werk en privé er voor jou momenteel uit?
2. Welke kant van je leven krijgt op dit moment relatief veel of weinig ruimte?
3. Als iemand naar je agenda van afgelopen maand kijkt, ziet diegene dan terug wat jij belangrijk vindt?

Actiestap

Plan deze maand bewust een paar uur in voor een activiteit of persoon waar je veel energie van krijgt, maar nu te weinig tijd aan besteed

1 uur

Werkdruk en werkbelasting

Een volle agenda hoeft niet alleen maar belastend te zijn: uitdaging en een stevig tempo kunnen juist energie geven. Wanneer de werkbelasting structureel te hoog wordt, blijft er echter steeds minder ruimte over voor herstel.

Werkdruk en werkbelasting

Reflectievragen

1. Welke onderdelen van je werk bepalen voor jou vooral de ervaren werkdruk?
2. Wanneer voelt een drukke werkdag voor jou goed te doen en wanneer niet?
3. Wat blijf je jezelf opleggen, terwijl het misschien niet allemaal hoeft?

Actiestap

Vraag bij één nieuwe taak expliciet: 'Moet dit vandaag, en moet ik dit zelf doen?'

5 min

Grenzen bewaken

'Ik doe dit nog wel even.' Grenzen helpen om je tijd, aandacht en energie te beschermen, maar wanneer het lastig is om nee te zeggen of grenzen te bewaken, kan dat uiteindelijk tot overbelasting leiden.

Grenzen bewaken

Reflectievragen

1. Waaraan merk je dat je een grens bereikt?
2. Welke grens weet je eigenlijk al een tijdje dat je zou moeten aangeven?
3. Wat gebeurt er wanneer je een grens wel of niet aangeeft?

Actiestap

Zeg deze week één keer bewust nee tegen een taak of activiteit waarvan je weet dat je die eigenlijk niet (meer) zou moeten doen

5 min

Onregelmatig werken

Een wisselend rooster kan zorgen voor afwisseling en flexibiliteit. Tegelijkertijd kunnen wisselende werktijden je slaap en ritme verstoren en daardoor meer energie vragen dan ze opleveren.

Onregelmatig werken

Reflectievragen

1. Wat merk je aan jezelf tijdens of na perioden van onregelmatig werken?
2. Welke aspecten van diensten passen goed bij jou en welke minder?
3. Waar zit voor jou de ruimte om het werken in diensten zo in te richten dat het je energie ondersteunt?

Actiestap

Kies je volgende avond-, nacht- of weekenddienst en plan vooraf één herstelmoment van minimaal 30 minuten binnen 24 uur.

30 min

Contact met patiënten

Je kunt een patiëntenkamer uitlopen met het gevoel: 'Hier doe ik het voor.' Maar sommige contacten zijn juist emotioneel zwaar of blijven nog lang in je hoofd zitten.

Contact met patiënten

Reflectievragen

1. Welke patiëntcontacten geven jou energie, en welke kosten je juist meer?
2. Kun je ook goed contact hebben met een patiënt zonder dat je alles voor diegene hoeft op te lossen?
3. Wanneer is je betrokkenheid een kracht, en wanneer wordt diezelfde betrokkenheid een belasting?

Actiestap

Geef één patiënt deze week bewust extra aandacht zonder ondertussen met de volgende taak bezig te zijn.

5 min

Identiteit als arts

Een sterke verbinding met het vak kan energie geven door trots, betrokkenheid en een gevoel van betekenis. Wanneer het functioneren als arts sterk verbonden raakt met eigenwaarde, kan het ook extra druk en energieverlies geven.

Identiteit als arts

Reflectievragen

1. Wat betekent het voor jou om arts te zijn?
2. Welke eigenschappen van jou komen in je rol als arts goed tot hun recht?
3. Wie ben jij als je morgen geen arts meer zou zijn?

Actiestap

Kies één kwaliteit die je belangrijk vindt als arts en breng die deze week bewust in de praktijk tijdens één patiëntcontact.

5 min

Reflectievragen

1.
2.
3.

Actiestap

Appendix L: Survey evaluation

Survey Arts in Balans Spel

Wanneer u dit formulier indient, worden uw gegevens, zoals naam en e-mailadres, niet automatisch verzameld, tenzij u het zelf opgeeft.

1. Deelnemer nummer

Voer uw antwoord in

2. Met welke **Energiegever** kaart ben je aan de slag geweest?

- Omgaan met stress
- Omgaan met ingrijpende situaties
- Contact met patiënten
- Onregelmatig werken
- Balans tussen werk en privé
- Werkplezier
- Omgaan met fouten en complicaties
- Zingeving
- Samenwerken binnen multidisciplinaire teams
- Ontspannen en herstellen
- Ontwikkelen en hebben van ambitie
- Werkdruk en werkbelasting
- Grenzen bewaken
- Identiteit als arts

3. Met welke **Energienemer** kaart ben je aan de slag geweest?

- Omgaan met stress
- Omgaan met ingrijpende situaties
- Contact met patiënten
- Contact met patiënten
- Onregelmatig werken
- Balans tussen werk en privé
- Werkplezier
- Omgaan met fouten en complicaties
- Zingeving
- Samenwerken binnen multidisciplinaire teams
- Ontspannen en herstellen
- Ontwikkelen en hebben van ambitie
- Werkdruk en werkbelasting
- Grenzen bewaken
- Identiteit als arts

4. Deze volgende vragen gaan over het opnieuw plaatsen van de kaarten op weegschaal

Wat is het aantal kaarten dat aan de '**Energiegevers**' kant staat op de weegschaal in de **lichte** kaarthouder?

0	1	2	3	4	5	6	7	8	9	10
Aantal										Aantal

5. Wat is het aantal kaarten dat aan de '**Energiegevers**' kant staat op de weegschaal in de **zware** kaarthouder?

0	1	2	3	4	5	6	7	8	9	10
Aantal										Aantal

6. Wat is het aantal kaarten dat aan de '**Energienemers**' kant staat op de weegschaal in de **lichte** kaarthouder?

0	1	2	3	4	5	6	7	8	9	10
Aantal										Aantal

7. Wat is het aantal kaarten dat aan de '**Energienemers**' kant staat op de weegschaal in de **zware** kaarthouder?

0	1	2	3	4	5	6	7	8	9	10
Aantal										Aantal

8. Evaluatie inhoud kaarten

	Zeer mee oneens	Oneens	Neutraal	Eens	Zeer mee eens
Het is nuttig om met de inhoud van de kaarten aan de slag te gaan.	○	○	○	○	○
De reflectievragen zijn helpen met het nadenken over het onderwerp.	○	○	○	○	○
De actiestappen passen goed bij de kaarten.	○	○	○	○	○
De actiestap helpt met een kleine verbetering maken.	○	○	○	○	○
Ik ben nieuwsgierig naar meer actiestappen en reflectievragen.	○	○	○	○	○
De actiestap is voor mij niet relevant.	○	○	○	○	○
Ik vond het nuttig om met een energiegever kaart aan de slag te gaan.	○	○	○	○	○
Ik vond het nuttig om met een energienemer kaart aan de slag te gaan.	○	○	○	○	○

9. Heb je opmerkingen over de inhoud van de kaarten (reflectievragen / actiestappen)?

Voer uw antwoord in

10. Evaluatie spel

	Zeer mee oneens	Oneens	Neutraal	Mee eens	Zeer mee eens
Het spel helpt bij het inzichtelijk maken van de balans.	○	○	○	○	○
Het aan de slag gaan met de kaarten voelt als een extra to-do op mijn to-do lijst.	○	○	○	○	○
Het spel duurt te lang om te gebruiken	○	○	○	○	○
Het spel support het verbeteren van de mentale balans.	○	○	○	○	○
Ik zou dit spel vaker willen gebruiken.	○	○	○	○	○
Ik zou dit spel ook in een sociale setting willen gebruiken, denk aan thuis of met collega's.	○	○	○	○	○
Het spel helpt met het verbeteren mijn balans als arts.	○	○	○	○	○
	○	○	○	○	○

11. Heb je verder nog opmerkingen?

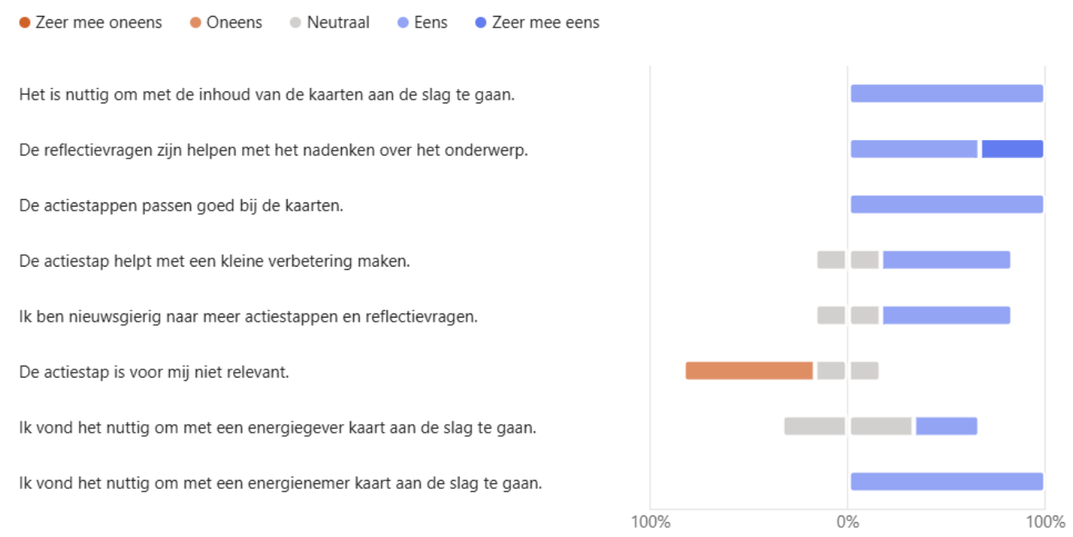
Voer uw antwoord in

Verzenden

Appendix M: Survey results

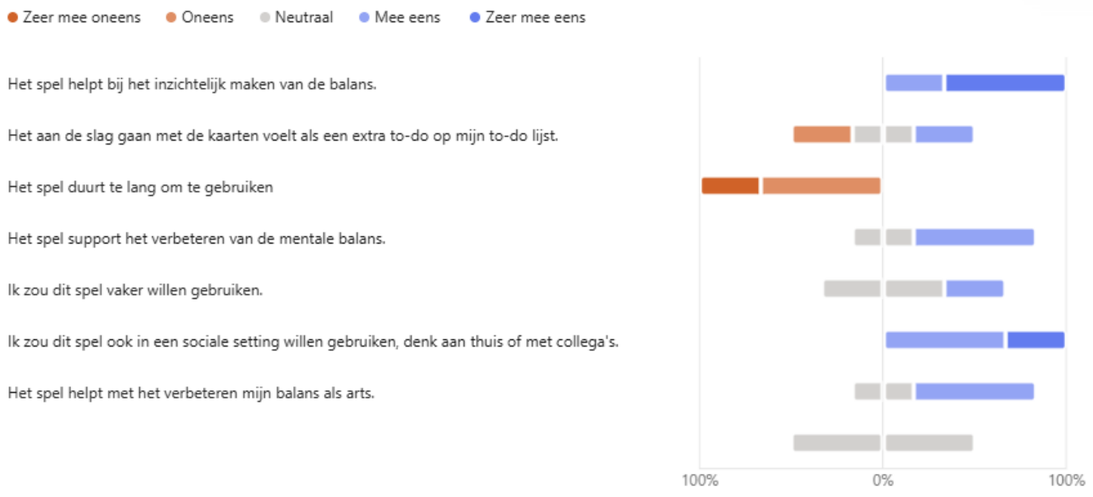
8. Evaluatie inhoud kaarten

Meer details



10. Evaluatie spel

Meer details



1	anonymous	Mooi en toepasbaar hulpmiddel om meer inzicht te krijgen in de mentale balans van een arts.
2	anonymous	Ik denk dat ik al vrij goed in balans ben, maar denk dat het zeker nuttig is wanneer dat minder het geval is