

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

! USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name	<u>Vink</u>	<u>4740</u>	Your master programme (only select the options that apply to you):
initials	<u>AJ,</u>	given name <u>Aron</u>	IDE master(s): <input type="radio"/> IPD <input checked="" type="radio"/> Dfl <input type="radio"/> SPD
student number	<u>4353927</u>		2 nd non-IDE master: _____
street & no.	_____		individual programme: <u>- -</u> (give date of approval)
zipcode & city	_____		honours programme: <input type="radio"/> Honours Programme Master
country	_____		specialisation / annotation: <input type="radio"/> Medisign
phone	_____		<input type="radio"/> Tech. in Sustainable Design
email	_____		<input type="radio"/> Entrepreneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair	<u>Gert Pasman</u>	dept. / section: <u>HCD/DCC</u>
** mentor	<u>Mailin Lemke</u>	dept. / section: <u>HCD/DA</u>
2 nd mentor	_____	
	organisation: _____	
	city: _____	country: _____
comments (optional)	

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..



Second mentor only applies in case the assignment is hosted by an external organisation.



Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair Gert Pasman date 18 - 02 - 2021 signature Gert Pasm an - IO
Digitally signed by Gert Pasman - IO Date: 2021.02.18 17:12:57 +01'00'

CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 18 EC **YES** all 1st year master courses passed
 Of which, taking the conditional requirements into account, can be part of the exam programme 18 EC **NO** missing 1st year master courses are:
 List of electives obtained before the third semester without approval of the BoE

name C. van der Bunt date 22 - 02 - 2021 signature C. van der Bunt
Digitally signed by C. van der Bunt Date: 2021.02.22 13:37:20 +01'00'

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: **APPROVED** **NOT APPROVED**
 Procedure: **APPROVED** **NOT APPROVED**

 comments

name Monique von Morgen date 02 - 03 - 2021 signature _____

Workplace Focus for Adults with Attention Deficit Hyperactivity Disorder project title

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

start date 15 - 02 - 2021 19 - 07 - 2021 end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

The main stakeholder in this project is the potential user: adults with ADHD (Attention Deficit Hyperactivity Disorder) ADHD is a neurodevelopmental disorder that is characterised by three groups of symptoms, based on the descriptions of the DSM-V (APA, 2013):

- Attention symptoms, like being easily distracted, having trouble finishing things, distinguishing main and secondary issues, and planning/organising/choosing.
- Impulsivity symptoms, like saying before you think, impatience, or even tantrums.
- Hyperactivity symptoms, such as not being able to sit still, always being busy with something, and restlessness.

Most people with ADHD have symptoms from all groups ('combined' type) but another significant subtype is the 'inattentive' type (often still referred to as ADD), which excludes hyperactivity symptoms. Their inattention is a little different, described best as 'dreaminess' (vs 'quickly distracted' in the combined type), or 'going too slowly' (vs 'always going too fast'). As people don't connect their dreamy disposition with ADHD, the inattentive type is less visible. It is more common among women, and they can be overshadowed by their more hyperactive, male counterparts (Additudemag, 2019). Attention should be paid to all groups in the research. While ADHD in children has long been accepted and treated, we have only been taking this seriously in adults for a decade or so. The symptoms in the DSM are descriptive of children more than adults ('schoolwork', 'often runs about and climbs'), with some notes about adults thrown in. We now understand that around 72% of children with ADHD do not 'grow out of it', and so, the prevalence of ADHD in adults is estimated at 2,1% (Tuithof et al., 2010).

Treatment for ADHD
 Though ADHD can not be cured, treatment currently exists in the forms of therapy and medication. Therapies such as Cognitive Behavioural Therapy help by changing a patient's negative outlook, and train in practical matters such as planning. Most of the medication options are stimulants such as methylphenidate (Ritalin). While these can help, there are significant side effects as well. So much so, that there is discussion whether methylphenidate should be prescribed to adults at all, due to cardiovascular and psychological risks. There are other drawbacks: it may take a long time to find the right drug and dose, and the rebound after the medication wears off can be though. (Additude, 2019) All of this makes the choice of whether to medicate a difficult one, especially for adults.

ADHD in work/study life
 One of the areas where having ADHD can be a struggle is work/study life. The modern digital environment is filled with websites and apps that are constantly fighting for the users' attention. The world is becoming increasingly connected by personal digital devices and social media applications, and therefore, the ability to focus becomes increasingly challenging and important (Carr, 2020). Adults with ADHD are probably more vulnerable to these distractions. There is also the social aspect: staying focused during (online) meetings, where people are expected to process what is happening as well as provide their input simultaneously. Working and studying from home, as we are all forced to do during the current pandemic, might pose an extra challenge to those who have difficulty planning and focusing when external pressures fall away. But because the digital environment is distracting to all of us, I believe my end result could be useful to those without ADHD as well.

[DSM-V] American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). [Additudemag, ADD vs ADHD] <https://www.additudemag.com/add-adhd-symptoms-difference/> [Tuithof et al, Prevalence of ADHD] <https://assets-sites.trimbos.nl/docs/a5e53bfb-3f80-4d72-b59c-925e71919ae0.pdf> [Additudemag, Rebound] <https://www.additudemag.com/adhd-medication-rebound/> Carr, N. (2020). The shallows: What the Internet is doing to our brains. New York, NY: W. W. Norton & Company.

space available for images / figures on next page

introduction (continued): space for images

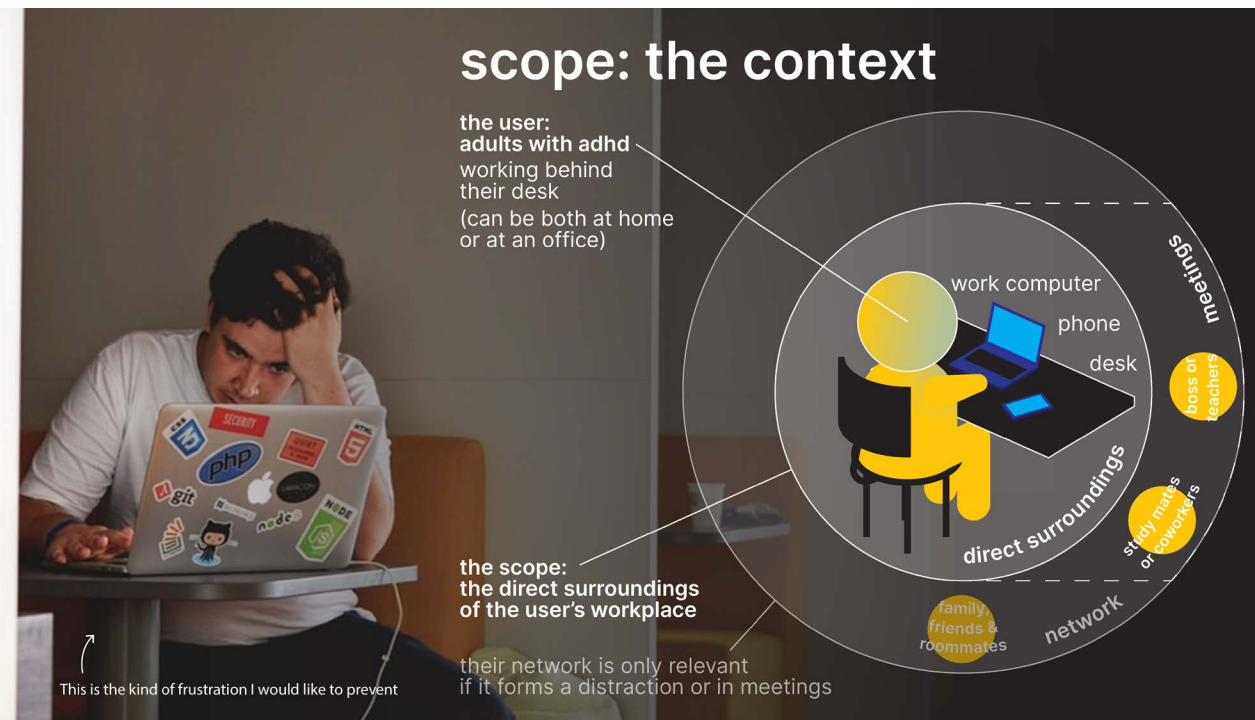


image / figure 1: The scope & context of the user

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

Adults with ADHD have difficulty focusing and finishing tasks. If they study or have a desk job, they sit behind their computer and try to work or study, but can struggle to stay concentrated. Their ADHD brain is looking for stimulation, and finds many ordinary activities unrewarding due to an underactive reward system (Littman, 2021). The direct environment around their desk can be full of distractions. Besides, in the digital environment, readily available through their smartphone and computer, apps and websites are constantly fighting for their attention. This can lead to frustrations.

The project should aim to help adults with ADHD focus while working or studying, with a product placed in or around their workplace. The project should identify the distractions in and around their workplace, such as from their phone or computer, or social distractions, either at home or at work. It should help them deal with these distractions. The work is anything that is done behind their computer, be it at home or in an office, that they consider (study)work. It can be task-based work performed solitarily (this can include reading or performing assignments) or attending (online) meetings or workshops. The social aspect of the last category should be considered.

[Additudemag] Littman, E. (2021) Never Enough? Why ADHD Brains Crave Stimulation. Additudemag. Retrieved from <https://www.additudemag.com/brain-stimulation-and-adhd-cravings-addiction-and-regulation/>

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

I will research how adults with ADHD currently manage to finish tasks, and how theory and therapy suggest to stimulate focus. I will design an object on or around their desk that will help them deal with distractions, remain focused, and finish their tasks.

The aim is to create a physical product, but I do not exclude options like product-service systems, the inclusion of an app, be it on their phone or work computer.

The product should be helping them focus on their work, in order to finish tasks. In which way this is done most effectively is to be found using generative research, for example:

- by making a planning or helping to stick to it,
- redirecting during moments of distraction,
- cutting out as many distractions as possible, or
- increasing the feeling of reward or enjoyment from finishing tasks.

Research should be done into what the biggest sources of distraction are, and how people currently deal with these.

The slow recognition of adults with ADHD

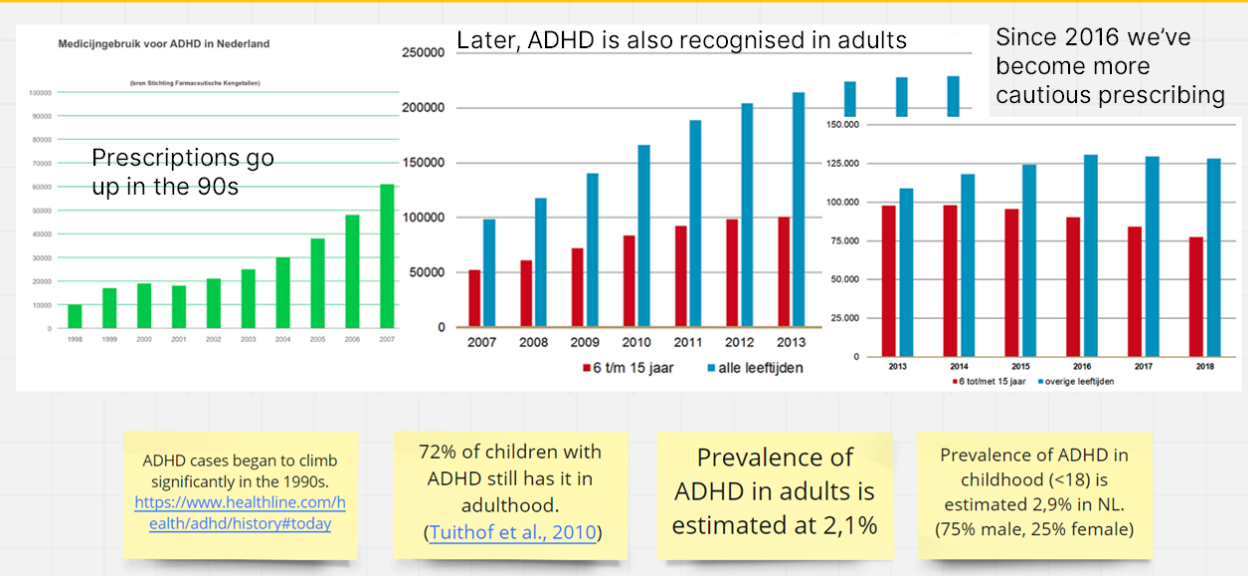
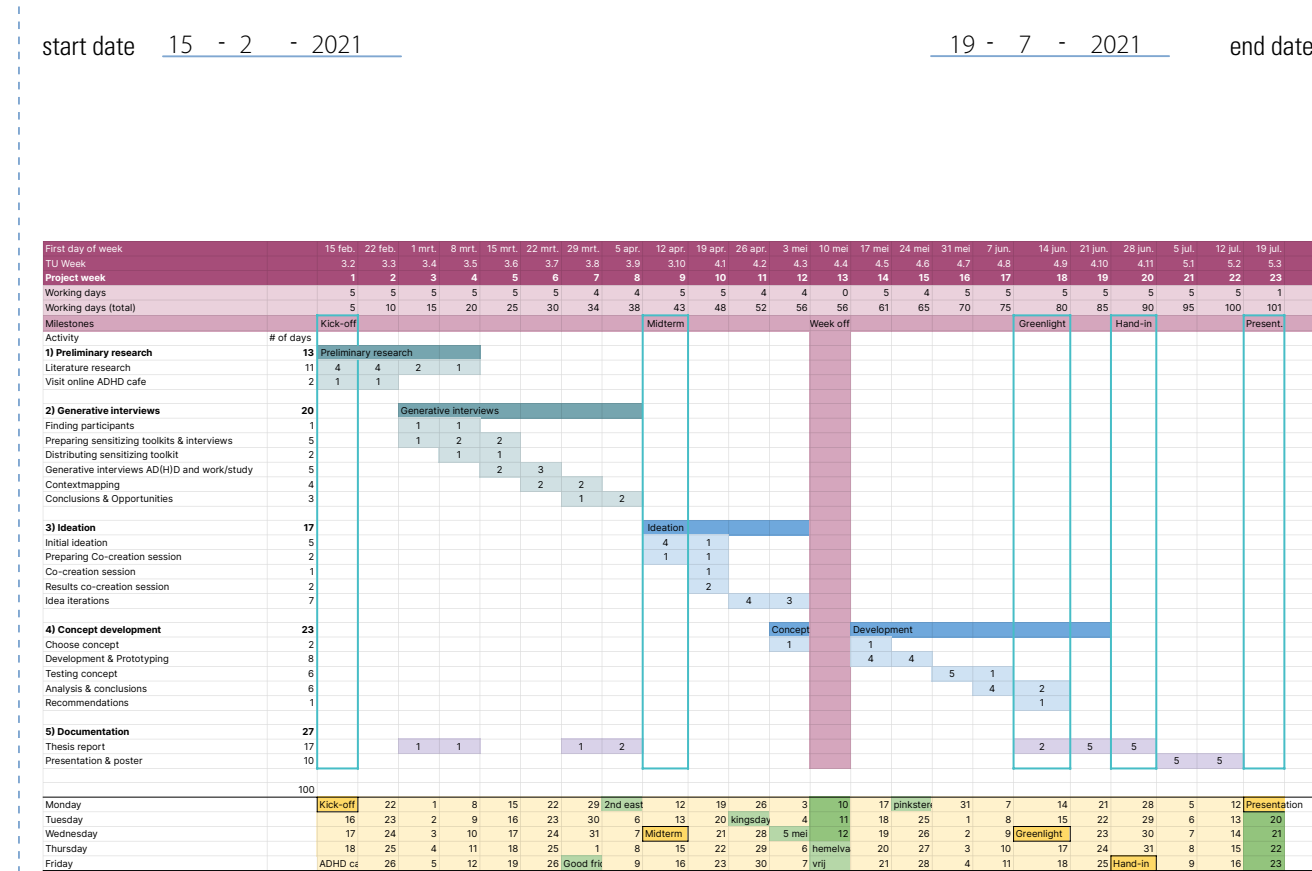


image / figure 2: The slow recognition of adults with ADHD

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and 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 activities.



- 1) Preliminary research**
Literature research: I want to gain an understanding into the neural and practical mechanisms of attention, ie by reading 'Zo Werkt Aandacht' and find how this is different for adults with ADHD. Also, find inspiration in techniques and therapies that currently exist/
Visiting the ADHD café to immerse in a group of adults with ADHD
- 2) Generative interviews**
I will find participants through my personal network, asking at the ADHD cafe and via forums (like the subreddit /r/ADHD). The participants should at some point in their lives be diagnosed with ADHD, and still experience symptoms into adulthood.
The goal is to gain empathy and understanding for how adults with ADHD and see what their working/studying day and environment look like. What do they currently do to focus? Which sources of distraction are there?
Sensitizing toolkits: eg booklets that participants fill out ahead of the interview, possibly over a period of time, to sensitize them to their context. Contextmapping: 'On the wall' analysis of the findings of the generative interviews, as well as the preliminary research (Convivial Toolbox)
- 3) Ideation**
Co-creation session: In this case, an online session of a few hours where participants are taken through a small design process to come up with ideas. Preferably, with the participants from before, with maybe some outsiders mixed in (who don't necessarily have ADHD).
- 4) Concept development**
Out of 4 concepts, one will be developed further and prototyped. This prototype will be used in a user test, which will evaluate whether it helps people feel more focused. It will have a physical aspect if covid regulations allow it.

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

- My personal motivation for setting up this project comes from people around me with ADHD who were sometimes struggling to get work done, and the frustration this could bring about.
- I brought together some aspects of design that I would like to address in the project:
 - Generative research:
I'm interested in applying sensitizing techniques + interviews (a probe that is still possible at distance), and session design (online) of gathering information and ideas.
 - Early validation of ideas:
In the past I've had to use a highly iterative approach (courses EI and ITD). In EI, still, I wanted to perfect my ideas before testing, which limited their potential and the time I had for improvements. I did not grasp the importance of testing assumptions and ideas in their most bare-bones form effectively. In ITD this worked better because the stakes were lower, and we were forced to iterate every week. In this graduation project, I want to plan a few cycles and iterate quickly.
Although Covid poses challenges in this, I believe my subject and the environment I want to design for lend themselves for testing at a distance.
 - Psychology:
In the master (as well as BEP) I have focused often on projects where a psychological barrier needs to be crossed (showing in public, calling anxiety). In this project I am designing for a specific diagnosis, which is really interesting to me, because I get the opportunity to learn from and empathize with people who can have different ways of functioning and thinking than me.
- Taking a group with a diagnosis as stakeholder comes with some challenges. ADHD can also be a sensitive topic for some, as it can become part of your identity, or parts of your identity are being explained as a 'disorder', for which medication can be prescribed. As discussed, the choice to medicate can be sensitive as well, but should be taken into account during research. There are always questions of overdiagnosis and overprescription as well.
- There are also opportunities in taking a diagnosis as focus. A lot has been written about ADHD, both academically and informally: there are blogs full of tips and personal stories. Besides that, succesful therapies have been in use for decades, which are valuable grounds to look use as a basis for design. Lastly, a lot has been written about attention management in general, like 'Zo werkt aandacht' by Stefan van der Stigchel.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

Appendix B: Ethics application

Delft University of Technology ETHICS REVIEW CHECKLIST FOR HUMAN RESEARCH (Version 18.06.2020)

This checklist should be completed for every research study that involves human participants and should be submitted before potential participants are approached to take part in your research study. This also applies for students doing their Master-thesis.

In this checklist we will ask for additional information if need be. Please attach this as an Annex to the application.

The data steward of your faculty can help you with any issues related to the protection of personal data. Please note that research related to medical questions/health may require special attention. See also the website of the [CCMO](#).

Please upload the documents (go to [this page](#) for instructions).

Thank you and please check our [website](#) for guidelines, forms, best practices, meeting dates of the HREC, etc.

I. Basic Data

Project title:	Workplace Focus for Adults with Attention Deficit Hyperactivity Disorder
Name(s) of researcher(s):	Aron Vink
Research period (planning)	15-03-2021 to 01-04-2021
E-mail contact person	a.j.vink@student.tudelft.nl
Faculty/Dept.	Industrial Design Engineering, Design for Interaction
Position researcher(s):¹	MSc student
Name of supervisor (if applicable):	Gert Pasman & Mailin Lemke
Role of supervisor (if applicable):	Chair & mentor of MSc graduation project

II. A) Summary Research

(Please very briefly (100-200 words) summarise your research, stating the question for the research, who will participate, the number of participants to be tested and the methods/devices to be used. Please avoid jargon and abbreviations).

The MSc graduation project is a design process where 3 phases involve participant research. General question: How can adults with ADHD (attention deficit hyperactivity disorder) be supported to feel more focused by a physical object on/around their desk?

The ~8 participants are students or have a job with deskwork, are over 18, diagnosed with ADHD, and experience symptoms as adults. It is not necessary that the participants are the same across the three phases.

The three research phases:

[1] Generative research: after doing small exercises about work and ADHD in a booklet, participants are interviewed about:

- How ADHD affects their work/study behind their computer, their working/studying environment, and sources of distraction/causes of mindwandering

[2] Co-creation session: online session (~2 hours) where participants walk through a small design process to ideate on possible solutions together.

[3] Concept evaluation: participants are mailed a physical product concept or use a digital representation of it. They are asked to perform a few predesigned unrelated tasks both with and without the product, to evaluate whether they are more focused. They are asked to record the interactions with the product on camera, and do a small survey and interview afterwards.

B) Risk assessment & risk management

Please indicate if you expect any risks for the participants as a result of your research and, if so, describe these risks and how you will try to minimize them.

There is little risk for the participants involved in the study, except perhaps that participation can cost some time, and people with ADHD have difficulty with planning and time management. When recruiting participants, I will be very clear about the expected duration. I will tell them that if they fail to finish the booklet for the phase 1 interview, we can do the final few pages during the interview, to relieve some time pressure. I will inform them that it is optional to take part in the later phases.

¹ For example: student, PhD, post-doc

III. Checklist

Question	Yes	No
1. Does the study involve participants who are particularly vulnerable or unable to give informed consent? (e.g., children, people with learning difficulties, patients, people receiving counselling, people living in care or nursing homes, people recruited through self-help groups).	X	
2. Are the participants, outside the context of the research, in a dependent or subordinate position to the investigator (such as own children or own students)? ²		X
3. Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g., covert observation of people in non-public places).		X
4. Will the study involve actively deceiving the participants? (For example, will participants be deliberately falsely informed, will information be withheld from them or will they be misled in such a way that they are likely to object or show unease when debriefed about the study).		X
5. Sensitive personal data <ul style="list-style-type: none"> Will the study involve discussion or collection of personal sensitive data (e.g., financial data, location data, data relating to children or other vulnerable groups)? Definitions of sensitive personal data, and special cases thereof are provided here. 	X	
6. Will drugs, placebos, or other substances (e.g., drinks, foods, food or drink constituents, dietary supplements) be administered to the study participants?		X
7. Will blood or tissue samples be obtained from participants?		X
8. Is pain or more than mild discomfort likely to result from the study?		X
9. Does the study risk causing psychological stress or anxiety or other harm or negative consequences beyond that normally encountered by the participants in their life outside research?		X
10. Will financial inducement (other than reasonable expenses and compensation for time) be offered to participants?		X
Important: if you answered 'yes' to any of the questions mentioned above, please submit a full application to HREC (see: website for forms or examples).		

² **Important note concerning questions 1 and 2.** Some intended studies involve research subjects who are particularly vulnerable or unable to give informed consent. Research involving participants who are in a dependent or unequal relationship with the researcher or research supervisor (e.g., the researcher's or research supervisor's students or staff) may also be regarded as a vulnerable group. If your study involves such participants, it is essential that you safeguard against possible adverse consequences of this situation (e.g., allowing a student's failure to complete their participation to your satisfaction to affect your evaluation of their coursework). This can be achieved by ensuring that participants remain anonymous to the individuals concerned (e.g., you do not seek names of students taking part in your study). If such safeguards are in place, or the research does not involve other potentially vulnerable groups or individuals unable to give informed consent, it is appropriate to check the NO box for questions 1 and 2. Please describe corresponding safeguards in the summary field.

11. Will the experiment collect and store videos, pictures, or other identifiable data of human subjects? ³	X	
--	---	--

Question	Yes	No
12. Will the experiment involve the use of devices that are not 'CE' certified? Only, if 'yes': continue with the following questions:		X
➤ Was the device built in-house?		
➤ Was it inspected by a safety expert at TU Delft? (Please provide device report, see: HREC website)		
➤ If it was not built in house and not CE-certified, was it inspected by some other, qualified authority in safety and approved? (Please provide records of the inspection).		
13. Has or will this research be submitted to a research ethics committee other than this one? (if so, please provide details and a copy of the approval or submission).		X

IV. Enclosures

Please, tick the checkboxes for submitted enclosures.

Required enclosures

- A data management plan reviewed by a data-steward. Enclosure A: 4353927_Aron Vink_Data_Plan

Conditionally required enclosures

if you replied 'yes' to any of the questions 1 until 10:

- A full research application

Enclosure B: Full Ethics Application HREC If

you replied 'yes' to questions 11:

- An Informed consent form

Appendix B2: Consent Form for Working/studying focus for Adults with ADHD

And B5: Information sheet Working/studying focus for Adults with ADHD If

you replied 'yes' to questions 12: A device report

If you replied 'yes' to questions 13:

- Submission details to the external HREC, and a copy of their approval if available.

Additional enclosures

- Any other information which you feel to be relevant for decisionmaking by the HREC.

³ Note: you have to ensure that collected data is safeguarded physically and will not be accessible to anyone outside the study. Furthermore, the data has to be de-identified if possible and has to be destroyed after a scientifically appropriate period of time. Also ask explicitly for consent if anonymised data will be published as open data.

V. Signature(s)



Signature(s) of researcher(s)
Date: 03-03-2021



G. Pasman

Signature (or upload consent by mail) research supervisor (if applicable)
Date: 03-03-2021

Date 15-03-2021
Contact person Ir. J.B.J. Groot Kormelink, secretary HREC
Telephone +31 152783260
E-mail j.b.j.grootkormelink@tudelft.nl



Human Research Ethics Committee
TU Delft
(<http://hrec.tudelft.nl/>)

Visiting address
Jaffalaan 5 (building 31)
2628 BX Delft

Postal address
P.O. Box 5015 2600 GA Delft
The Netherlands

Ethics Approval Application: Workplace Focus for Adults with Attention Deficit Hyperactivity Disorder
Applicant: Vink, Aron

Dear Aron Vink,

It is a pleasure to inform you that your application mentioned above has been approved.

Thanks very much for your very thoughtful response to our queries - your HREC submission has now been approved. If you haven't done so already, we would recommend double checking any legal issues with the TUD Privacy Team ie: is there is anything specific you should need to do regarding GDPR compliance in light of sensitive information.

Best wishes,

Good luck with your research!

Sincerely,

Dr. Ir. U. Pesch
Chair HREC
Faculty of Technology, Policy and Management

Appendix C: ADHD Café insights

<p>Too much silence can kill concentration. You need to supplement with stimuli</p> <p>☰</p>	<p>Mono-tasking, like the pomodoro technique</p> <p>☰</p>	<p>"When I have time off, I like to just be an inefficient ADHD'er"</p> <p>☰</p>
<p>You often need a little push to get started, like a partner who starts working</p> <p>☰</p>	<p>Bullet journaling</p> <p>☰</p>	<p>Just don't plan anything before 10 in the morning (waking up takes a long time)</p> <p>☰</p>
<p>Most people are helped by someone around them who is also working, but some also can't handle others</p> <p>☰</p>	<p>An excel file that colours the tasks you have completed green</p> <p>☰</p>	<p>Feeling of urgency: an incoming message/ask by a colleague feels it should be dealt with right now</p> <p>☰</p>
<p>It really helps to turn all beeps, peeps, notifications off</p> <p>☰</p>	<p>Big Rocks planning method (start planning the big tasks, and fill in the pebbles later) (start the day with a big rock, etc)</p> <p>☰</p>	<p>Feeling of urgency: an incoming message/ask by a colleague feels it should be dealt with right now</p> <p>☰</p>
<p>"If I pick up my phone and my mind wanders, I will be gone for an hour"</p> <p>☰</p>	<p>Doing the shorter, fun tasks in between the long, boring tasks</p> <p>☰</p>	<p>It is really difficult to foster hyperfocus for productive things at will, but a lot of people with ADHD take advantage of it when it comes</p> <p>☰</p>
<p>"if I have a lot of stuff to do, then I get most distracted Then I do everything but the things that I should do. So I do have the stress, but nothing gets done."</p> <p>☰</p>	<p>Doing some smaller tasks first, so at least anything gets one at all. Maybe you grab a new task</p> <p>☰</p>	<p>During menial tasks, people put</p> <ul style="list-style-type: none"> - action movies - white noise - the sound of a grass mower on to concentrate <p>☰</p>
<p>Most people with ADHD find it hard to mentally accept it when they don't know how to proceed (ergens tegenaan loopt)</p> <p>☰</p>	<p>Getting things done (the book): treating everything like a task that comes into an inbox</p> <p>☰</p>	<p>People with ADHD can get way into a subject, like figuring out all the little details before buying the perfect object</p> <p>☰</p>
<p>A lack of overview can be helped by cutting problems up into little, solveable pieces</p> <p>☰</p>	<p>Starting along with a partner, like your SO</p> <p>☰</p>	<p>The rules for how much pressure your task system gives you should be your own decision, instead of an app screaming at you in red</p> <p>☰</p>
<p>A lack of overview can be helped by cutting problems up into little, solveable pieces</p> <p>☰</p>	<p>It can be hard to have to explain to your boss/colleagues that, sometimes, you just don't get much done</p> <p>☰</p>	<p>Which task system works for you is really personal, and may even work better if you design/adjust your own</p> <p>☰</p>
<p>"I make a choice at the start of every day: these 3 things I do today" [from a bigger to-do list]</p> <p>☰</p>	<p>At work, you can try to tell people what bothers you/works for you, this often gets more understanding than telling people you have ADHD</p> <p>☰</p>	<p>"If I do get into a nice flow, please let me stay in that flow for 6 hours. Don't tell me to eat/take breaks, otherwise I'll be useless for 2 days"</p> <p>☰</p>
<p>"I have 2 lists: one with everything, and one to-do list [short]"</p> <p>☰</p>	<p>Insight for someone else is easier than for yourself</p> <p>☰</p>	<p>"The most important thing is knowing how to start"</p> <p>☰</p>
<p>Lists don't work if they are</p> <ul style="list-style-type: none"> - unclearly written - too long - unfeasible - not checked regularly <p>☰</p>	<p>"I thought everyone had a brain like mine"</p> <p>☰</p>	<p>"It's nice to say to yourself, if I have done this thing today, it'll be good for the day."</p> <p>☰</p>
<p>"The most important thing is knowing how to start"</p> <p>☰</p>	<p>Working from home, people with ADHD miss the regularity(structuur) from outside and get distracted</p> <p>☰</p>	<p>Tasks in lists should not scream at you that they are not being done (& deadlines belong in an agenda)</p> <p>☰</p>
<p>Using a timer to force myself into short productive bursts</p> <p>☰</p>	<p>Some people with ADHD are never satisfied, both in perfectionism and in that they feel they've never doen enough.</p> <p>☰</p>	

Appendix D: Generative research

The research was very insightful and rewarding to do. The analysis, however, is a lot of work. I have broken it up into a few chunks, to present the findings:

1. What the sensitizing booklets tell us

This analysis focuses on processing the answers and drawings from the sensitizing booklet. This should serve mostly for inspiration. Three areas from the booklet were chosen to present here, also because they are less present in analysis 2:

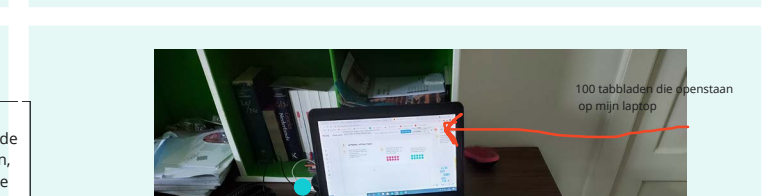
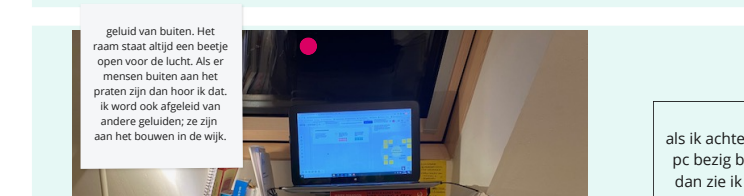
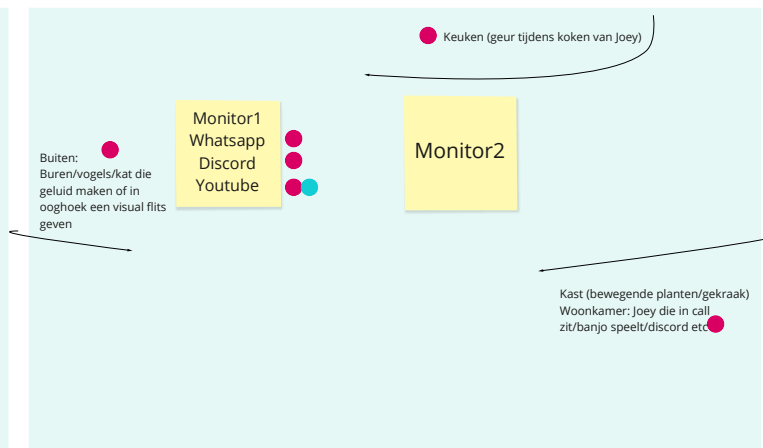
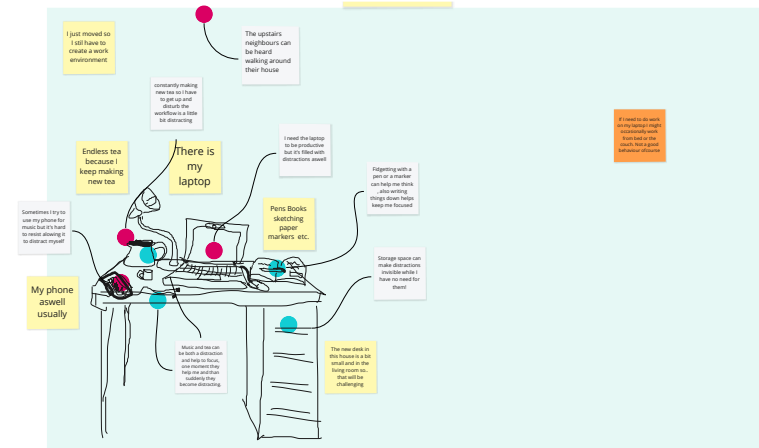
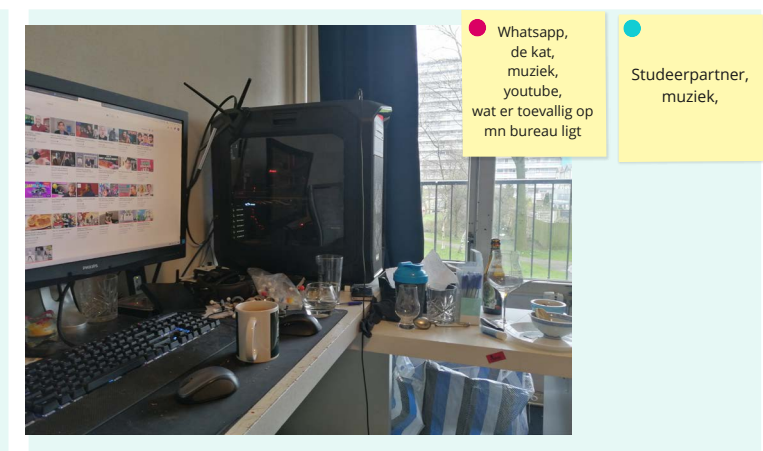
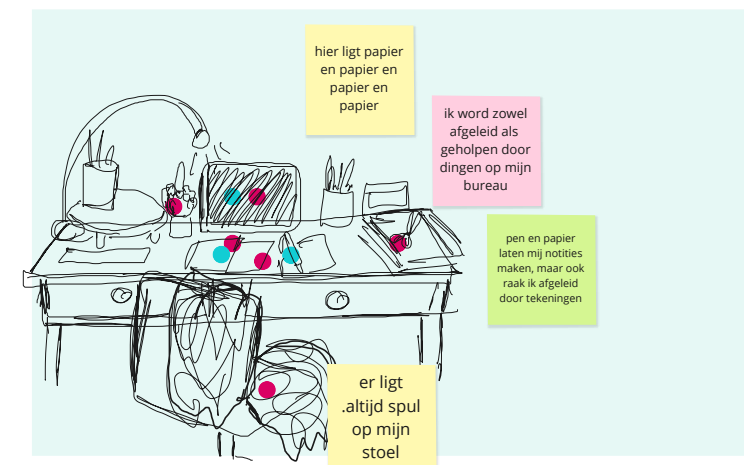
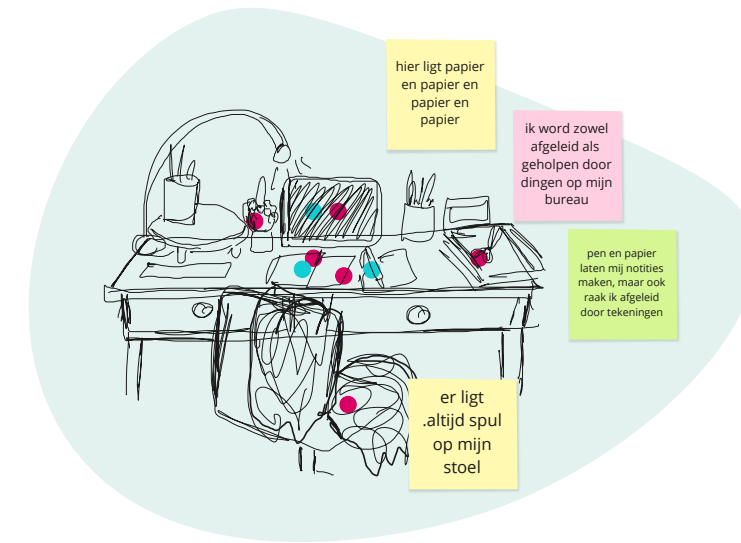
- the home workspace
- easy tasks vs hard tasks
- what works?

2. Analysis on the wall: clustered by theme

This analysis focuses on what was said during the interviews, but also takes into account insights from the desk research, the ADHD café and the DRUKS podcast. These insights are clustered around themes, after which the most important insights are written in the report. See "analysis on the wall" on page 42 for more about this process.

1.1 the home workspace

Participants were asked to either draw their working space, or take a picture, and indicate which things were good and bad for focus.



1.2 easy tasks vs hard tasks

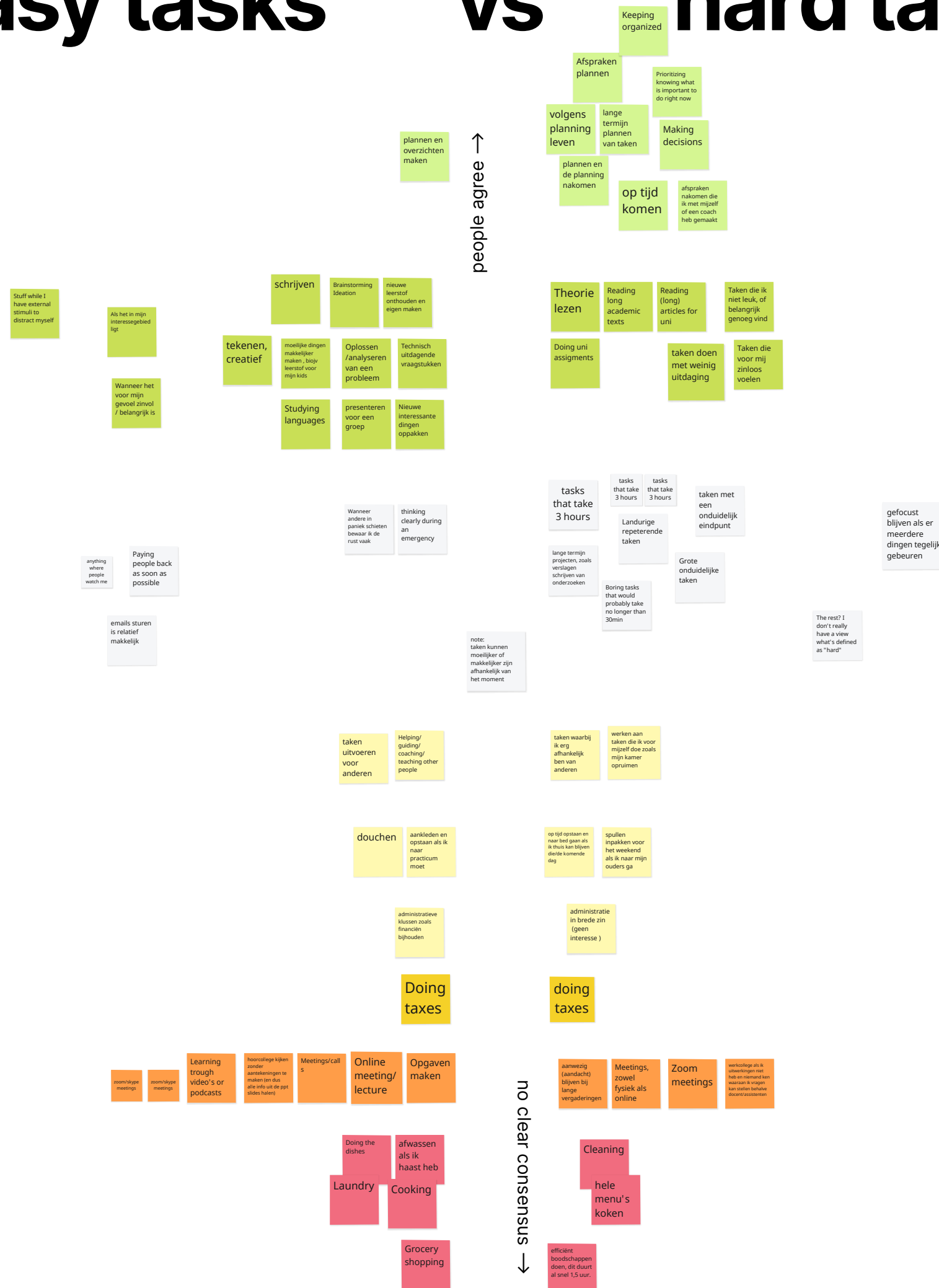
These are the tasks the 8 participants filled in as easy or hard for them, clustered into groups of similar tasks. Interestingly, there wasn't consensus in all areas. However, some strong lines can be drawn that apply to most people with ADHD.

→ There is a clear difference between tasks like reading or doing unchallenging assignments, and tasks where there is a creative element: people with ADHD are motivated when the task is creative, transformative, and has meaning.

→ There was no consensus whether working working for/with others is easier, mostly because one participant doesn't like being dependent on others.

→ No consensus on administrative tasks/taxes either

→ Lastly, there was no consensus on whether household tasks were easy either.



← Nearly everyone has trouble making and keeping commitments and sticking to plans. Only one person finds making plans easy, but says nothing about sticking to them.

← Nobody likes long tasks. Also, no unclear or boring tasks. But they did thrive in situations of emergency, while others are panicking.

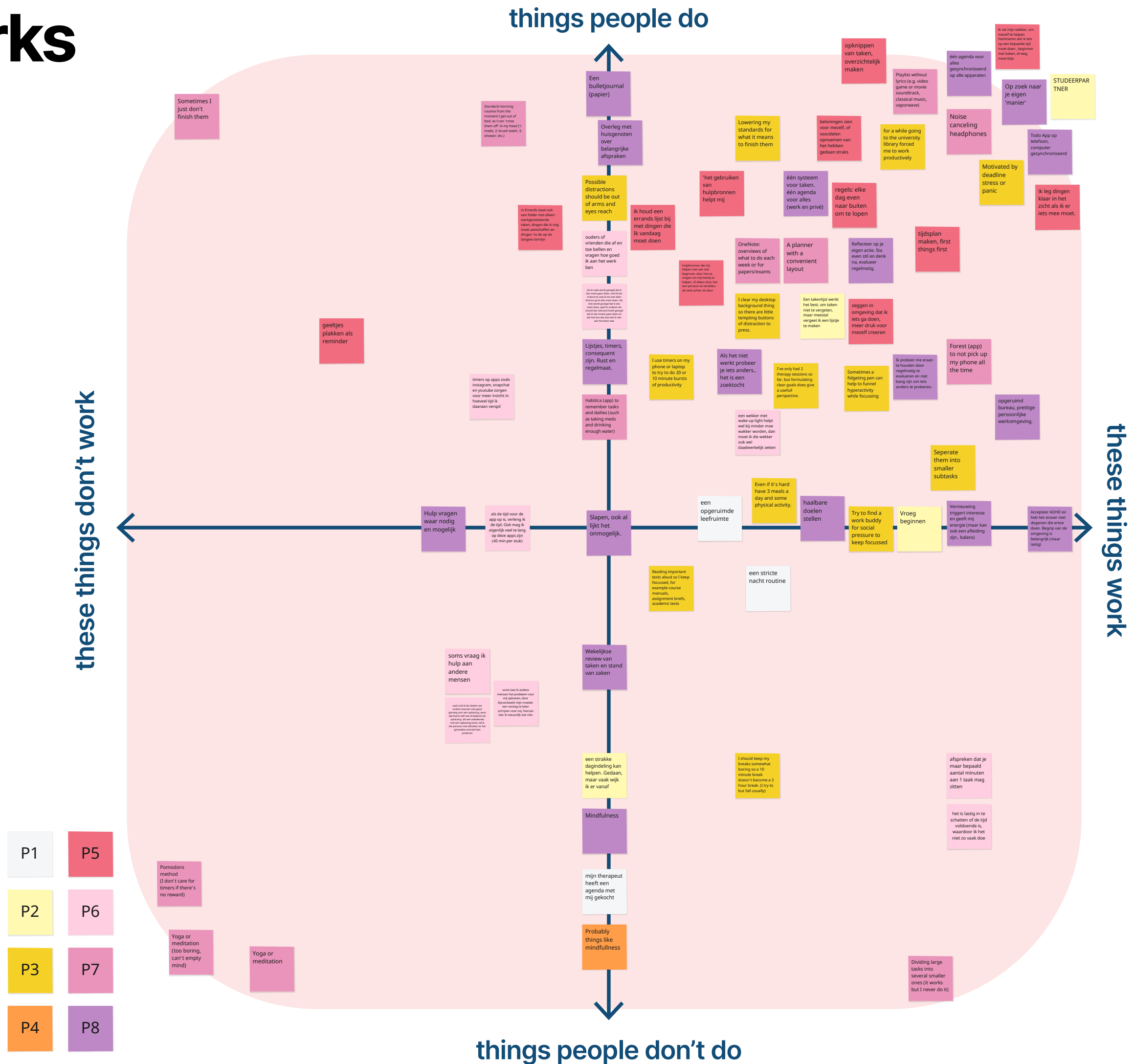
← On (online) meetings/lectures, people were in clear disagreement.

1.3 what works for them?

After participants had written down solutions, coping mechanisms and other beneficial methods, I asked them to order these on a set of axes, between things that didn't and did work for them, and things they did not do and actually did.

The idea is that, in the interview I can find out why some solutions work, and some don't, and use this wisdom when designing.

- ↳ The graph is heavily weighted to the top right. There are a few explanations for this:
 - I did not inform them of this graph exercise before they filled out the post-its
 - Since I asked them to write down solutions and good advice, their answers are skewed towards things that work.
 - One participant noted they were probably optimistic about any methods they filled in.



2.1 getting started

- Starting off with an easy task can be a way to motivate yourself and get started, or it can be a procrastination in itself.

For many people with ADHD, getting started is difficult. By this I mean both in the morning, getting up, and getting started on specific tasks without clear boundaries.

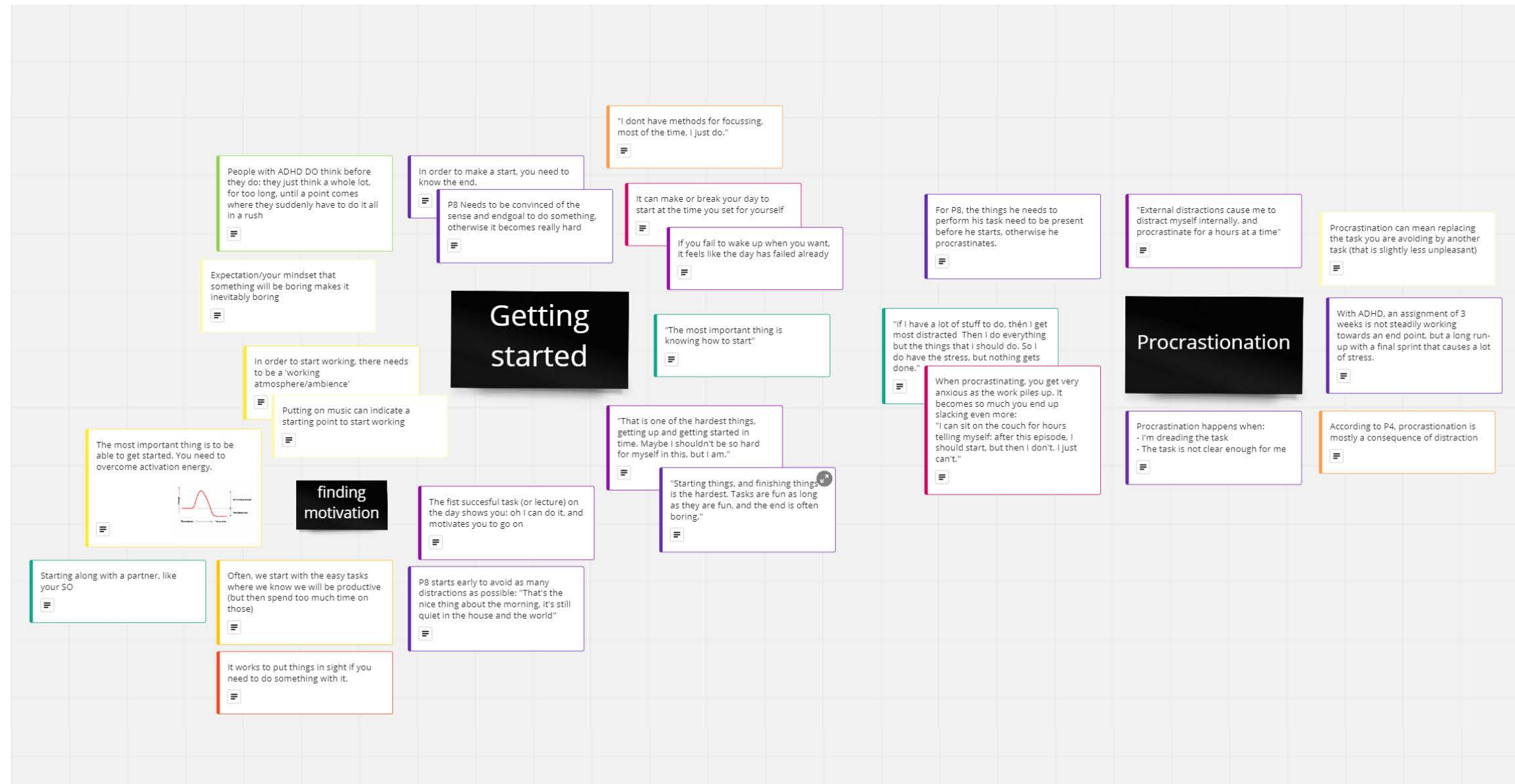
People with ADHD face a bigger challenge here, as the disorder causes a delayed circadian rhythm, meaning they are still drowsy when they are expected to be active.

- Every day, in order to start working, a threshold needs to be crossed. Once crossed, it becomes much easier to keep working: the first successful task motivates you to go on.
- If the morning doesn't go as expected because they wake up later than wanted, it can already feel like the day has failed.
- Thus, procrastination behaviour can be thought of as positive and negative spirals.

There are design opportunities in helping people make a good start of the day, of finding motivation to start tasks. Or perhaps something that can be done about the feeling of failure and pessimism about the rest of day, if they make a 'false start'.

- For people with ADHD to act, there needs to be clarity about the task at hand. What is the end goal? Does the task make sense?

- Not all procrastination has to do with frame of mind, some people noted their procrastination was mostly a result of distractions in their environment.



- There needs to be a 'working atmosphere' to be able to start. What this is, will be discussed in the page on 'The working environment'
- One thing that could help is to find a trigger that indicates a starting point: one participant used putting on music as a trigger.

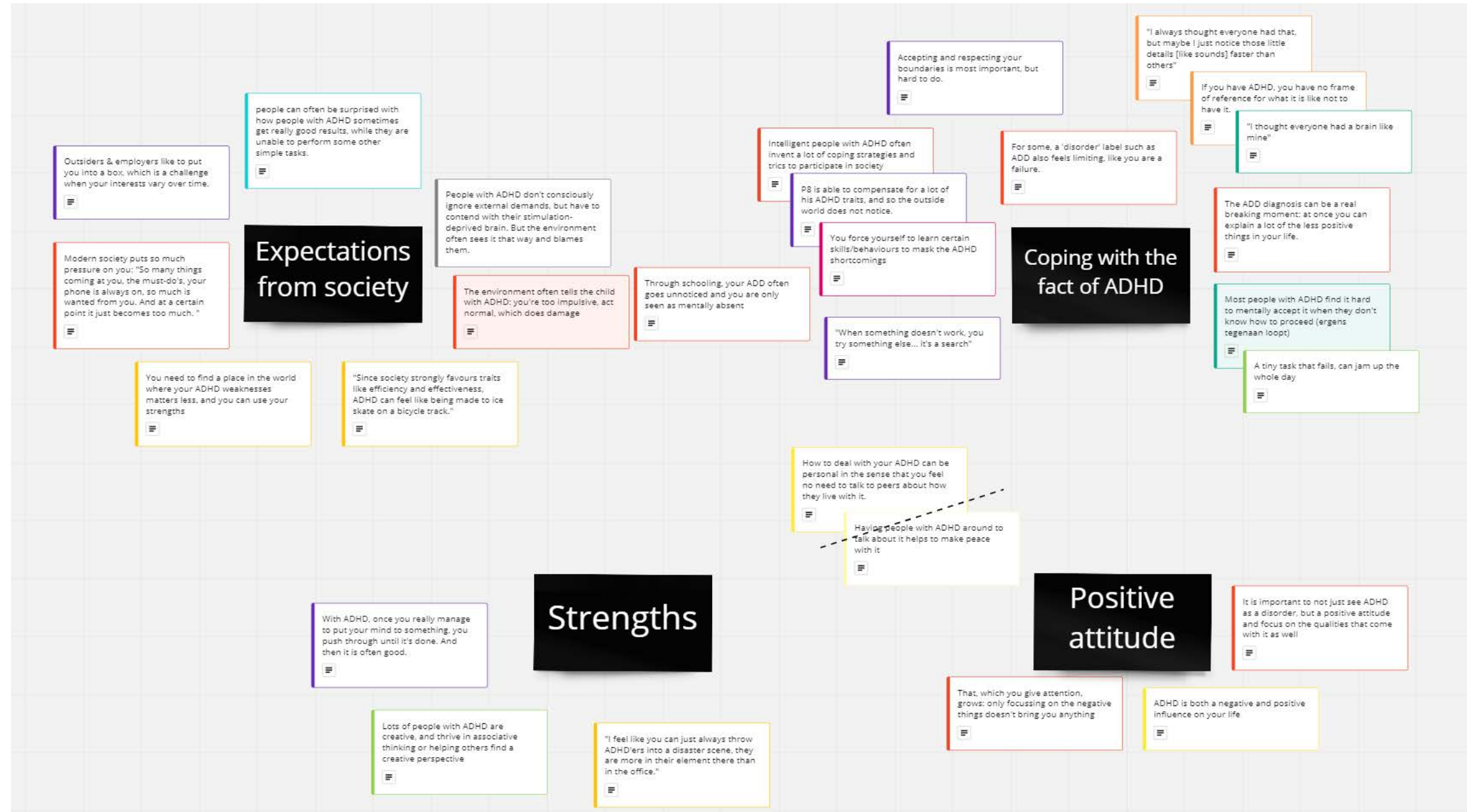
- An important part of motivation is your mindset, and expectation of the task at hand. If you think it'll be boring, it becomes boring. If you dread the task, or become anxious due to work piling up.
- This is where cultivating a positive attitude, or trying to relativise the weight of the tasks could offer an opportunity for improvement.

2.2 coping with ADHD itself

Part of having ADHD is your perspective on it: is it a disorder? A gift? A curse and a blessing? Society has its opinions as well.

- Modern society puts a lot of pressure on people to be productive, to keep all the balls afloat at once. The phone is always on, and so much is wanted from you.
- For people with ADHD, this pressure is felt harder. Many of them try to find a place in the world where their weaknesses matter less, and they can use their strengths.
- Often, from a young age, people with ADHD (especially with hyperactivity) have been told they are too hyper, too impulsive, not paying attention; that they are doing it wrong.
- (Intelligent) people figure out skills to compensate, and tricks to mask their ADHD so they can participate in society.

- People with ADHD find it hard to mentally accept when they get stuck somewhere along the way in a task: that can jam up the whole day



- Here, participants disagreed: one was helped by talking to others with ADHD, and make peace with it, while the other felt that it was something he should deal with on his own, feeling no need to talk with peers.

- According to one participant (who is also ADHD coach), a positive attitude towards your ADHD is important. If you only feed the negative thoughts, they will grow.
- This means focussing on strengths. Many people with ADHD are good in acute stress situations, creative and social, and if they put their mind to something, pull through and deliver great results.

2.3 social pressure & response

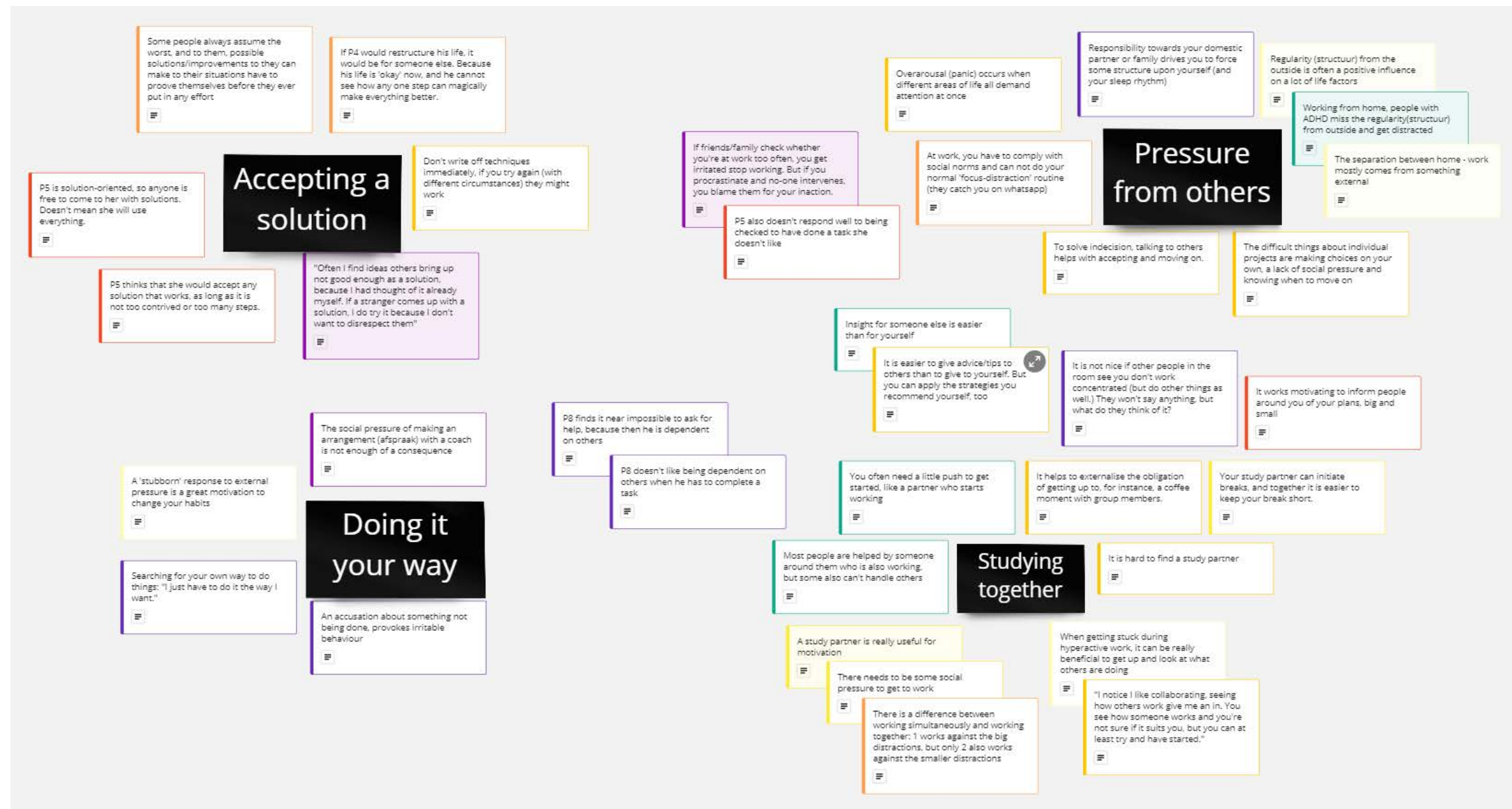
ADHD in a social context can be quite complex, especially when it comes to pressure. It is hard to generalise something that works for everyone. This subject is also different for the working adults (who mostly deal with colleagues and a boss) and the students (who have to set up social pressure themselves, aside from group projects).

In most cases, it was important to strike a delicate balance in social pressure. For the students, when someone asked them whether they had done a task they disliked, participants could get irritated, even recalcitrant, and be even less likely to do the task. On the other hand, one participant noted, if no-one asked them whether they did their homework, they also didn't feel enough pressure to get up and go do it.

- Most of the students I talked to liked to work together with study partners, so there is the subtle social pressure of having to look like you're working. This seemed to be one of the most effective ways to stay on task.
- This does take away the option to do a distracted ADHD work-distraction-routine, because you are afraid of what the other in the room might think. Only one participant mentioned this: because they could not sit still all day, they worked best if they were allowed to get distracted.
- This participant was one of three working adults. At least two of them strongly preferred a solitary working environment to get things done.
- In most cases, there seems to be a difference between what I would call 'active' and 'passive' pressure. Having a person in the room works for most people, less so if that person is also judging them if they did not do something.

- I find it interesting that one of the participants said they don't accept solutions for their problems if a friend or family offers it, but are too polite not to try it if a stranger does so.

- People with ADHD seem to be sensitive to regularity (structuur) from the outside, and therefore are more affected by them having to work from home now.



- Another black-and-white: either you hate to be dependent on others, or you love to work together. This does seem to have to do more with personality than ADHD, but most people with ADHD do seem to have a strong desire to do things 'their way'.

- Social pressure is also a good way to force a start through a coffee moment, or a break at the right time.
- Studying together offers the opportunity to discuss problems and spar about solutions

- Is there an opportunity here, to be able to emulate the kind of social pressure people feel from a study partner in a design?
- Another opportunity may be a platform that helps people find others to study together with, since not everyone can find a partner.

2.4 self-awareness

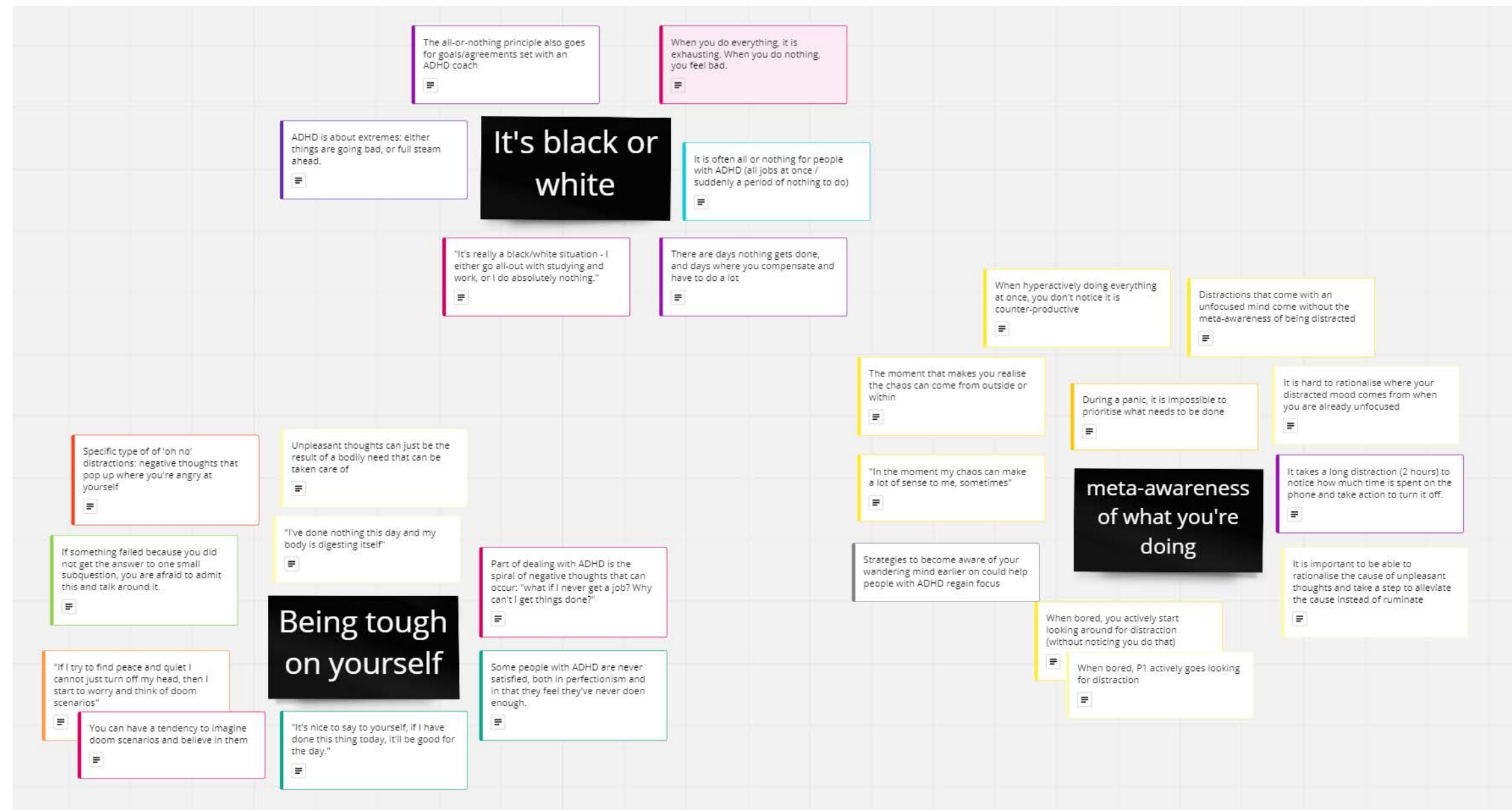
- ↳ For people with ADHD, it's either black or white: days where nothing happens, days where everything happens. If one thing fails, everything fails. This can be pretty tiring.

These three themes are largely separate.

The lower right, meta-awareness, concerns to what extent people with ADHD are conscious of the thought processes that are going on in the moment.

Part of ADHD seems to be that people with it are less likely to be aware of mind-wandering, and thus, do not readjust to the task they were doing before being distracted.

- ↳ Not everyone notices it when they are in a distracted state of mind. One participant during the interview realised he actively looks for distraction when bored. However, most of the insights about meta-awareness come from this participant.
- ↳ During a panic, it is impossible to prioritise. Hyperactive chaos can make a lot of sense, in the moment. And once in a distracted mood, it is hard to realise the cause of an unfocused mind.
- ↳ Concluding, while in an unproductive state of mind, it seems to be hard to realise or reflect on this, and thus, bring yourself to focus.
- ↳ There could be an opportunity in helping people develop strategies to become more aware of unproductive states of mind earlier on, and consciously choose whether to stay in it, or try to do something about it.



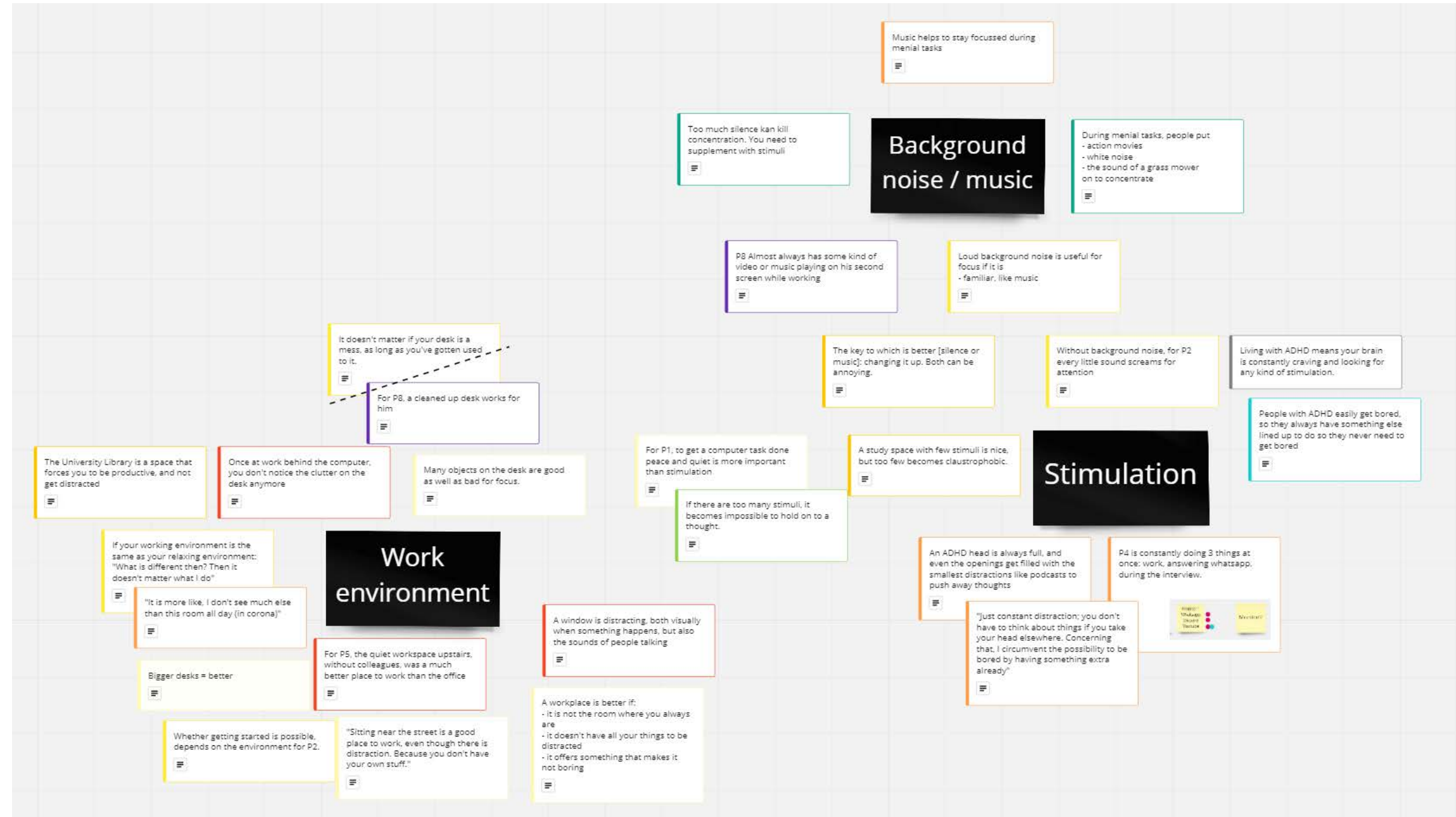
- ↳ Many people with ADHD beat themselves up because they feel like they have failed for not doing everything right, or irritation at not setting the right priorities.
- ↳ Part of this is thinking in doom scenarios: sudden thoughts can pop up, like 'what if I never get a job?' After which you can get worry and ruminate.

2.5 the working environment

Participants had a lot to say about the amount of stimulation they liked in their work environment, whether it be visual or auditory, under their control or not.

- ↳ In general, there should be little stimulation coming from the space itself. Quiet places like the university library were mentioned. It seems that for a stimulation to be useful, it should be under your control, like music.
- ↳ It helps if your workplace is not the same space you relax in, to mentally separate your work and chill times, but also because your room at home probably has all your things to be distracted by.

- ↳ Nearly all participants listened to music or something else for concentration. The type of music, or noise, or a video with voices, was different for everybody.



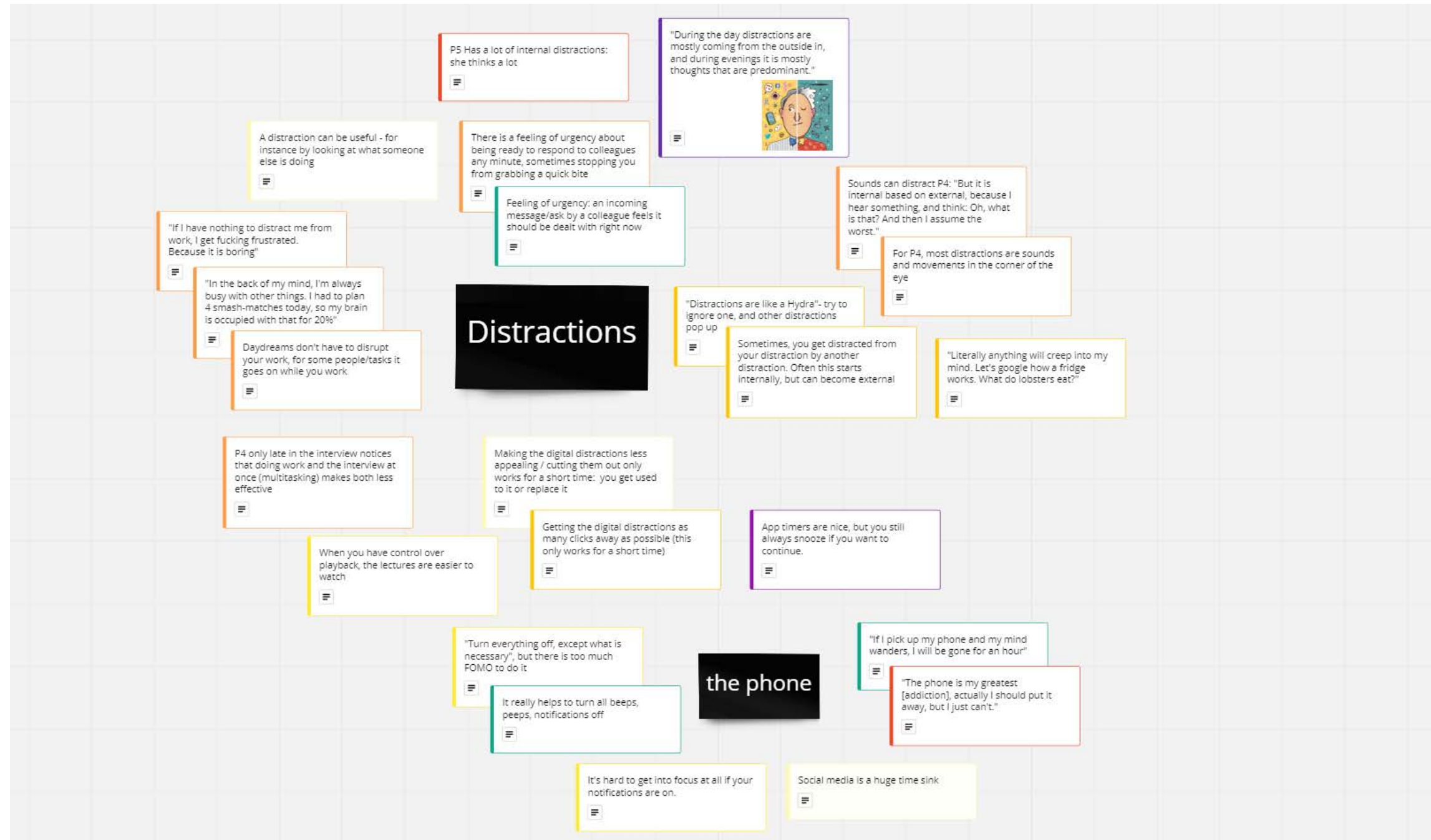
- ↳ There was no agreement whether a clear or cluttered desk made a difference. Most participants did not notice the clutter anymore, once they got started.
- ↳ In any case, workplaces need some form of stimulation to make them not feel boring or claustrophobic.

- ↳ It is important to choose your view carefully. A window overlooking the street is distraction waiting to happen.

2.6 distractions

When can you call something a distraction? One participant says his mind is always 20% distracted, and daydreams don't disrupt his work, while others have a much more single-track mind and can't focus on two things at once.

- Not all distractions are bad: you should be able to look around for inspiration, or perhaps you need a distraction because your work is so boring.



- Some people are more affected by sounds: whenever they hear something, they assume the worst and make up entire stories.
- Some people are most affected by their own thoughts: their head never stops.

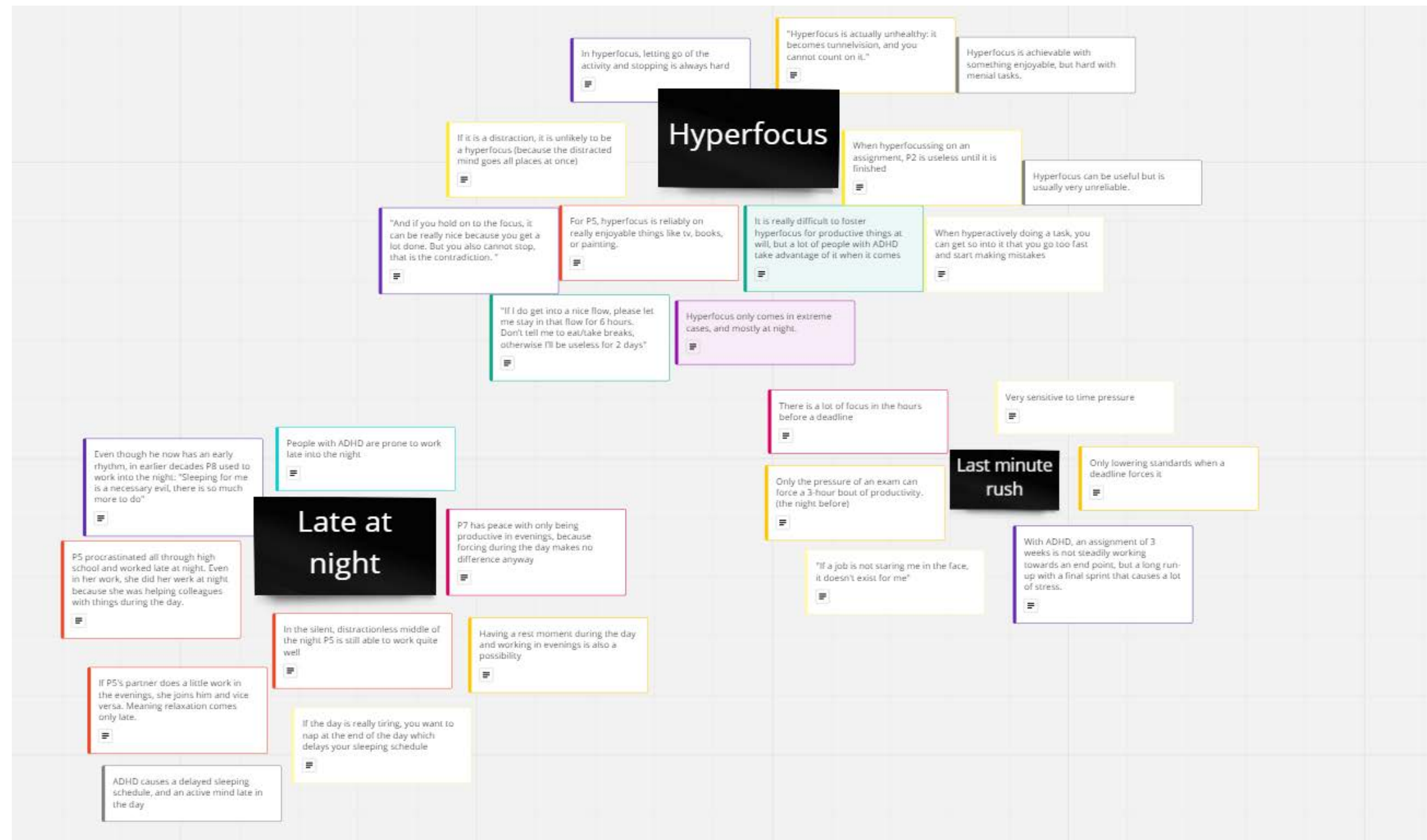
- Multiple people acknowledge that the phone is their biggest distraction, yet they don't turn it off, because they are afraid of missing something.
- This probably has to do with the feeling of urgency there is to respond to colleagues any minute: if an email comes in, to them, it feels like it cannot wait.

- A lot of strategies to combat digital distractions only work temporarily: you can put away programs a few clicks, limit your time on apps, but any boundary you put up can just as easily be torn down in the moment.

2.7 hyperfocus & rushing

Once in a while, people with ADHD DO get focused. But, if they do, they can get really into it: hyperfocus. If this hyperfocus is on something productive, it is probably because there is a deadline later that day. Or night; people with ADHD are much more likely to work into the night.

- Most often, hyperfocus is actually on something enjoyable, like TV or hobbies. It is harder to hyperfocus on uninteresting things. Most importantly, you cannot count on it.
- Most participants saw hyperfocus as something useful, holding on to it for as long as possible if it came.
- But it also has drawbacks: you go too fast, start making mistakes, and it can become tunnelvision.



➤ For some, it was beneficial to make peace with having a nightowl work schedule, instead of beating themselves up. Forcing an early schedule didn't do anything anyway.

➤ One participant actually successfully stuck to a policy of not working after dinner, besides family responsibilities they also experienced a burn-out and had to make choices to stick to a healthy schedule.

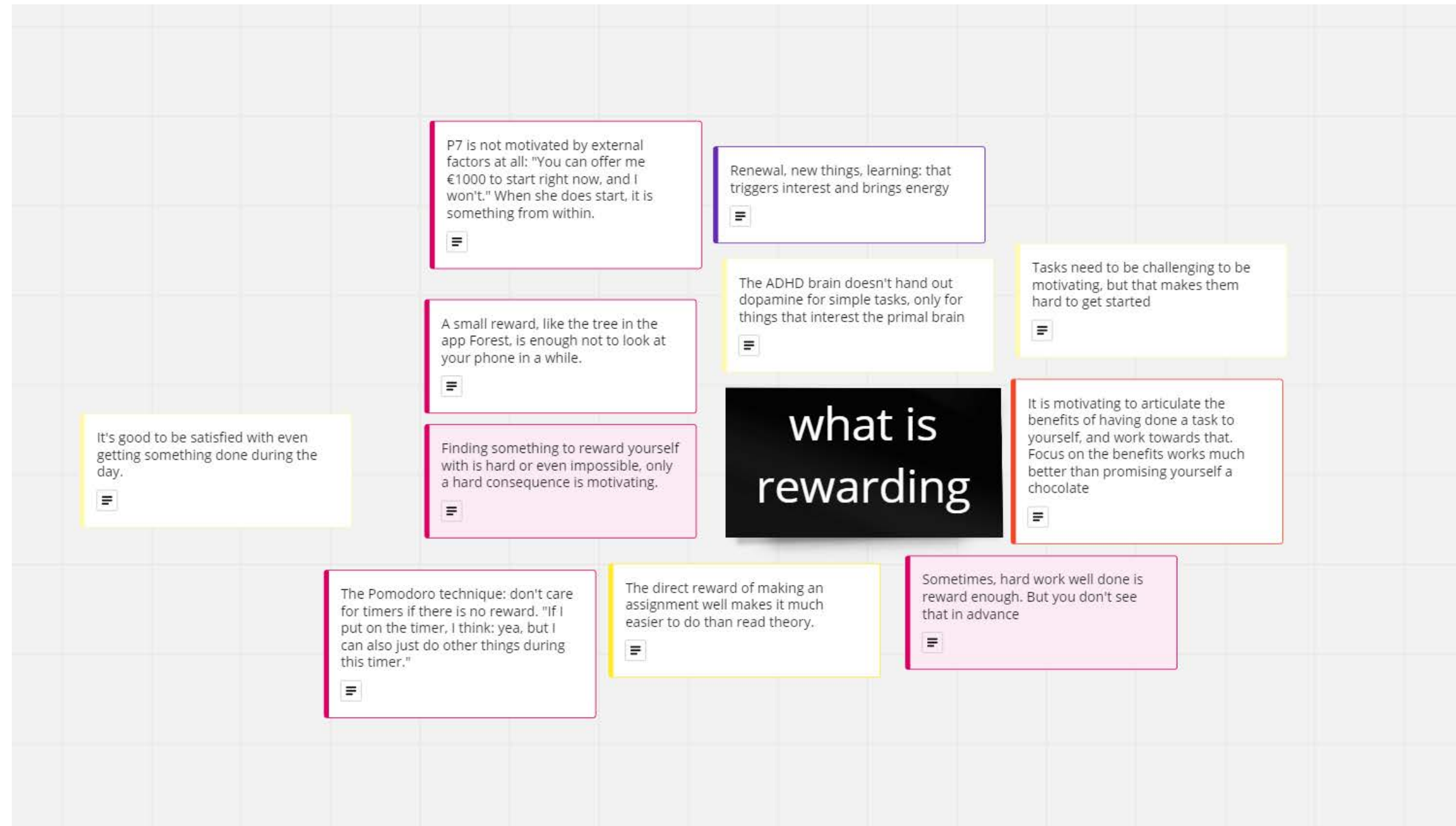
➤ If someone with ADHD has multiple weeks for an assignment, they don't work steadily, but it is a long, unproductive runup with an exhausting and stressful end sprint.

➤ People with ADHD are very sensitive to time pressure: a rapidly advancing deadline or test can force a bout of focus.

2.8 what is rewarding

That is very personal, also for those with ADHD. Figuring out what feels rewarding to you beforehand can help you can work towards something.

- ↘ **It is not like promising yourself chocolates after a job well done; if only it were that simple. One participant even mentions that no external reward can motivate them to start 'right now', not even a €1000.**
- ↘ **A much more motivating factor is a hard consequence.**
- ↘ **However, what does reward you? A better strategy than self-reward is articulating the benefits of having done a task.**



- ↘ **The best rewards are those that simply come with doing the work well. Unfortunately, the ADHD brain doesn't give out dopamine for simple tasks.**

- ↘ **For a timer and singletasking, like pomodoro, a participant mentions that they will not stick to it, because there is no reward attached to it.**

2.9 the systems they use

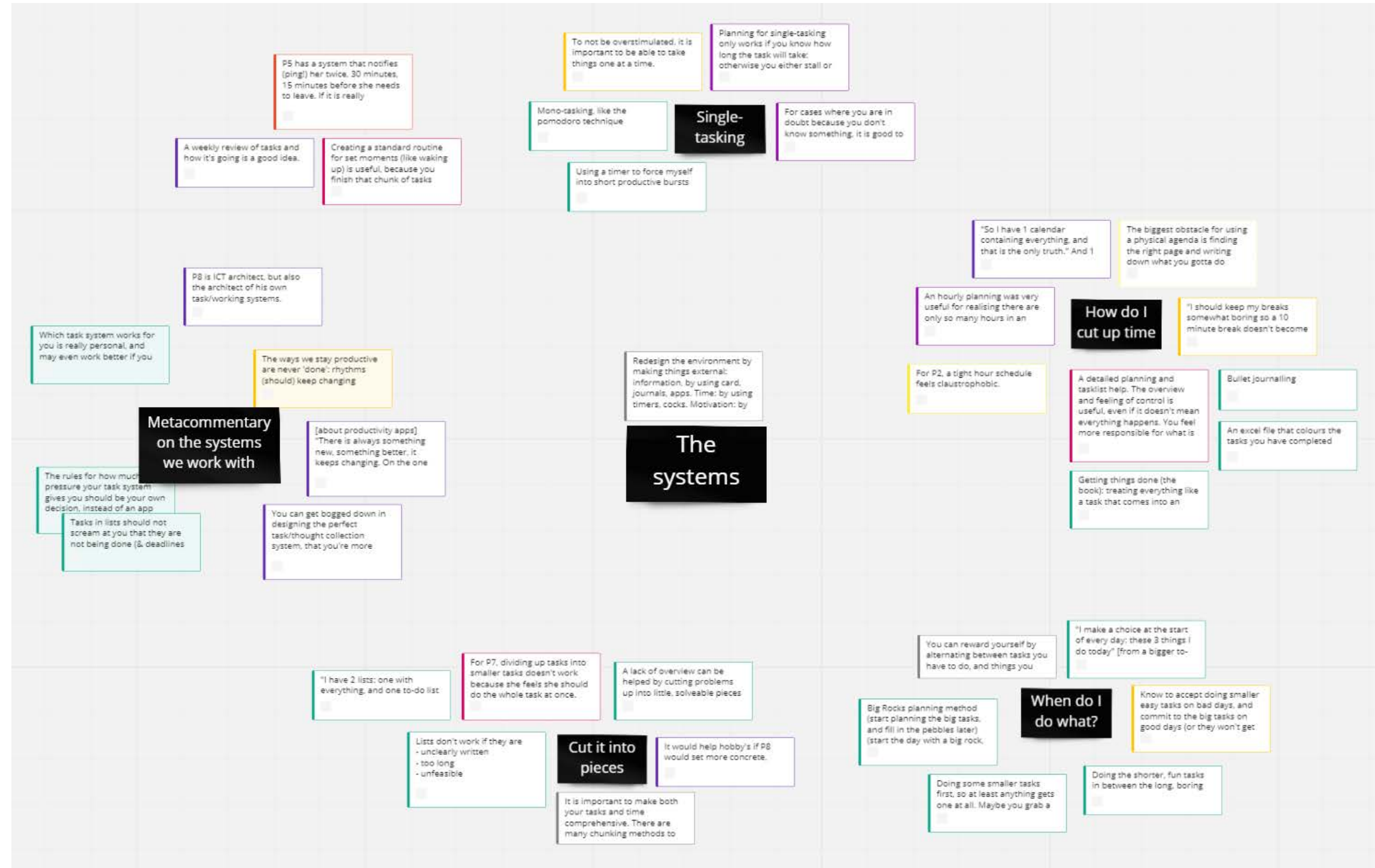
This category of insights mostly stands on its own, and concerns the systems people use to be productive. Task systems, such as Big Rocks; planners, such as bullet journals; time management, such as the Pomodoro technique.

What mainly stands out is that there is not a lot of coherence in which systems are used, exactly. Some people use two to-do lists, a long-term one and a short-term one; some preach that one task list is the only way to get work done.

Therefore, the systems used can be considered very personal, and of course, subject to change. But it does seem likely that people with ADHD busy themselves more with these systems, and what works for them, than others.

- It seems beneficial, if not necessary, to be able to build your own task system, or at least adjust something that exists. Combined with the earlier insight that things should be done 'your way', people with ADHD need to design for themselves.
- No person with ADHD likes a judgmental app. Combined with the earlier conclusion that people with ADHD are sensitive to judgment and rejection: no red flashing signs when you have failed to complete a task in time. The exception to this is when the person has made a conscious choice for this, as a consequence.

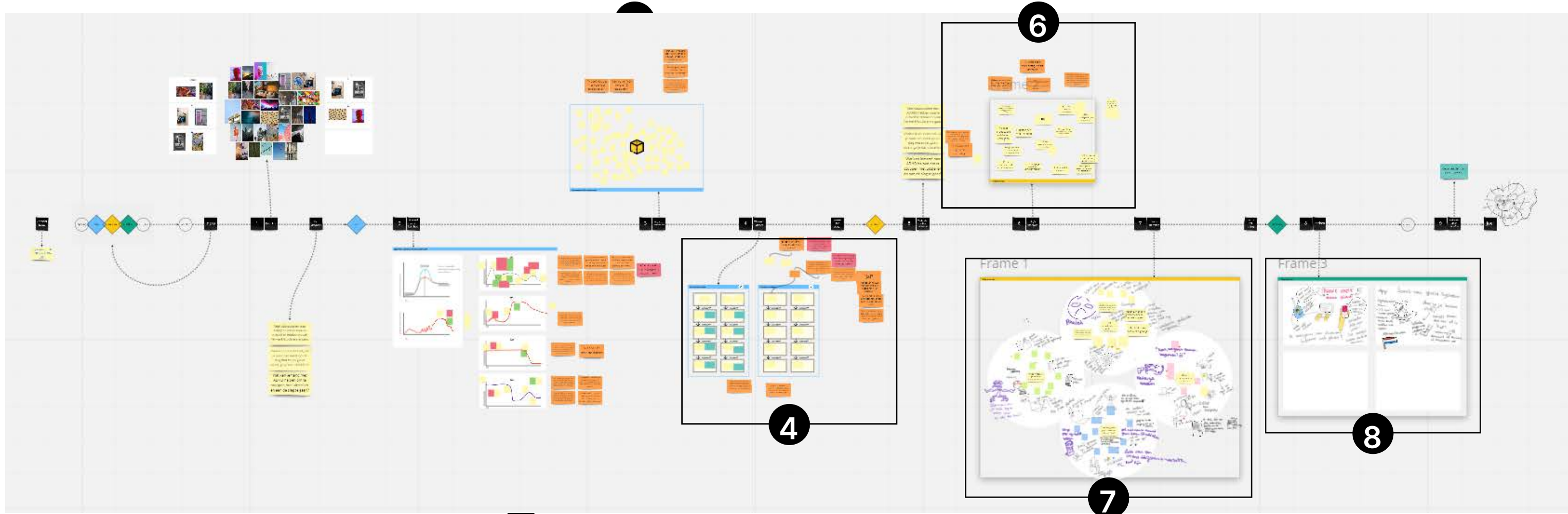
- There is no consensus on what the level of detail is in a time planning.
- The feeling of overview you get from the activity of planning is more important than whether you stick to it faithfully
- Focussing on a single task helps against getting overwhelmed



- Everyone recommends people with ADHD to cut up tasks into manageable pieces, but people don't know how to do this, or feel they should do a task all at once.
- It is important to know when to commit to your big, difficult tasks. You can use small tasks to start up or as a breather, but you have to prioritize the big tasks.

Appendix E: co-creation session

The image below is an overview of the filled out Miro board. The large numbers correspond with the activities that are included in the appendix pages after this.

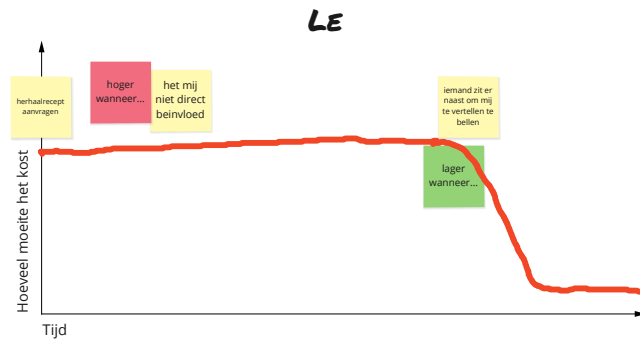
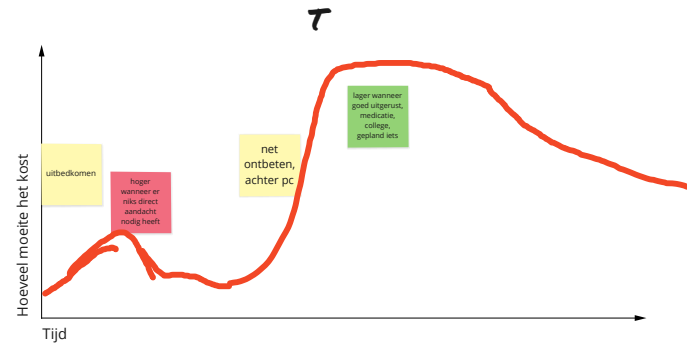
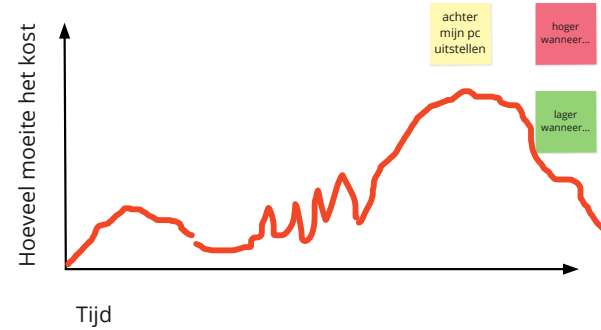
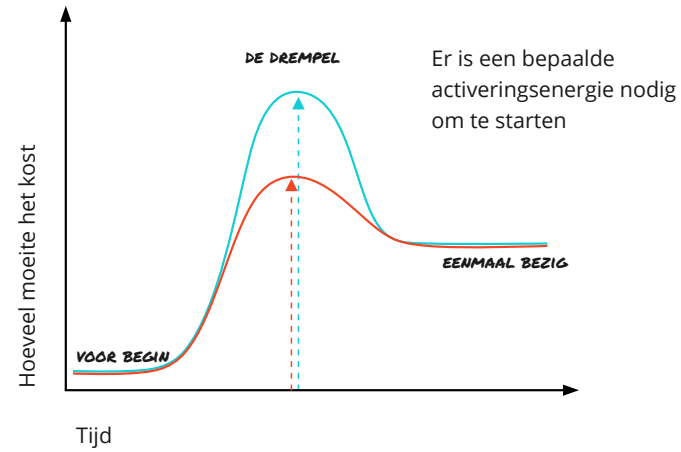


The different post-its denote different things:

-  Things written down during session, mostly by participants
-  Added later by me, relevant things said by participants during session
-  Added later by me, conclusions by me based on discussions in the session

② how much effort does it take?

GRAFIEK: HOEVEEL MOEITE KOST HET?



"Maar als je alleen zelf vindt dat het moet, dus als er niemand anders is die zegt dat het moet, dan vind ik het heel moeilijk, dan kan ik het de hele dag niet doen."

"als ik dan wat moet gaan doen dan raak ik weer afgeleid, maar dan op mijn computer"

"En na de pauze doe ik dan niets meer, omdat ik dan ook een drempel over moet."

"soms maak ik de fout om aan een nieuwe comic te beginnen en dan ben ik opeens 5 uur die comic aan het lezen"

"Als ik iets heel interessant vind, maar dat is meestal niet voor mijn studie. En als iemand anders er last van heeft, als ik het niet doe. Dat werkt ook heel sterk als motivator."

"Die middelste drempel zou misschien wat langzamer moeten stijgen, want sommige dingen wordt het moeilijker om bezig te blijven hoe langer je bezig bent"

After a break, starting again is just as hard

"Heb ik geen college en moet ik uit mezelf aan het werk, dan is het best een hoge drempel, en dan kan dat heel lang doorgaan, heb ik wellicht een keer zin, is het vaak een halfuur, dan ga ik weer andere dingen doen."

"De moeite is dan heel hoog, en dat duurt bij mij heel lang, en dan gaat het erom dat het mij vaak niet direct beïnvloedt op dat moment, dus dat ik er pas na een paar dagen echt last van ga krijgen."

over bellen naar de dokter

"Als ik iets studiegerelateerds moet doen op een dag, dan duurt het heel lang voordat ik eraan begin. Het kan best een halve dag duren, misschien tot na het avondeten."

"Als er geen haast achter zit, dan denk ik: ja, kan het morgen ook doen. Morgen heb ik er wel zin in. Wat niet waar is."

"Dan denk ik, het moet vandaag echt af, en dan kost het heel veel minder moeite. En als ik niet weet wat ik moet typen, heb ik geen zin meer en kost het meer moeite."

Externe druk? "Ja, echt heel erg hard. Als het niet heel erg hard is denk ik, naah, komt wel."

③ reverse brainstorm

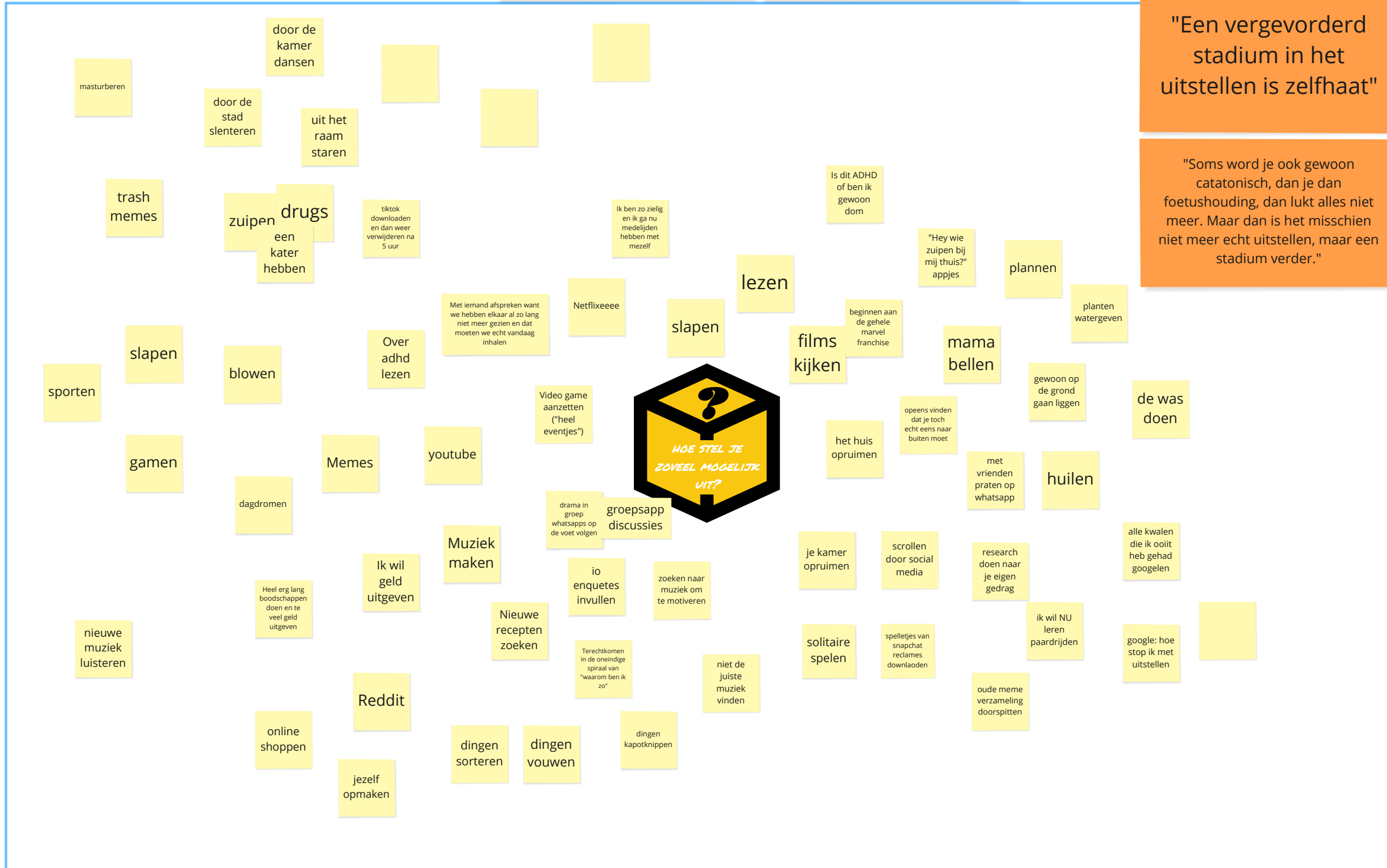
"ik denk dat dat met heel veel dingen geldt."

"één potje" "één fimpje" "5 bladzijden"

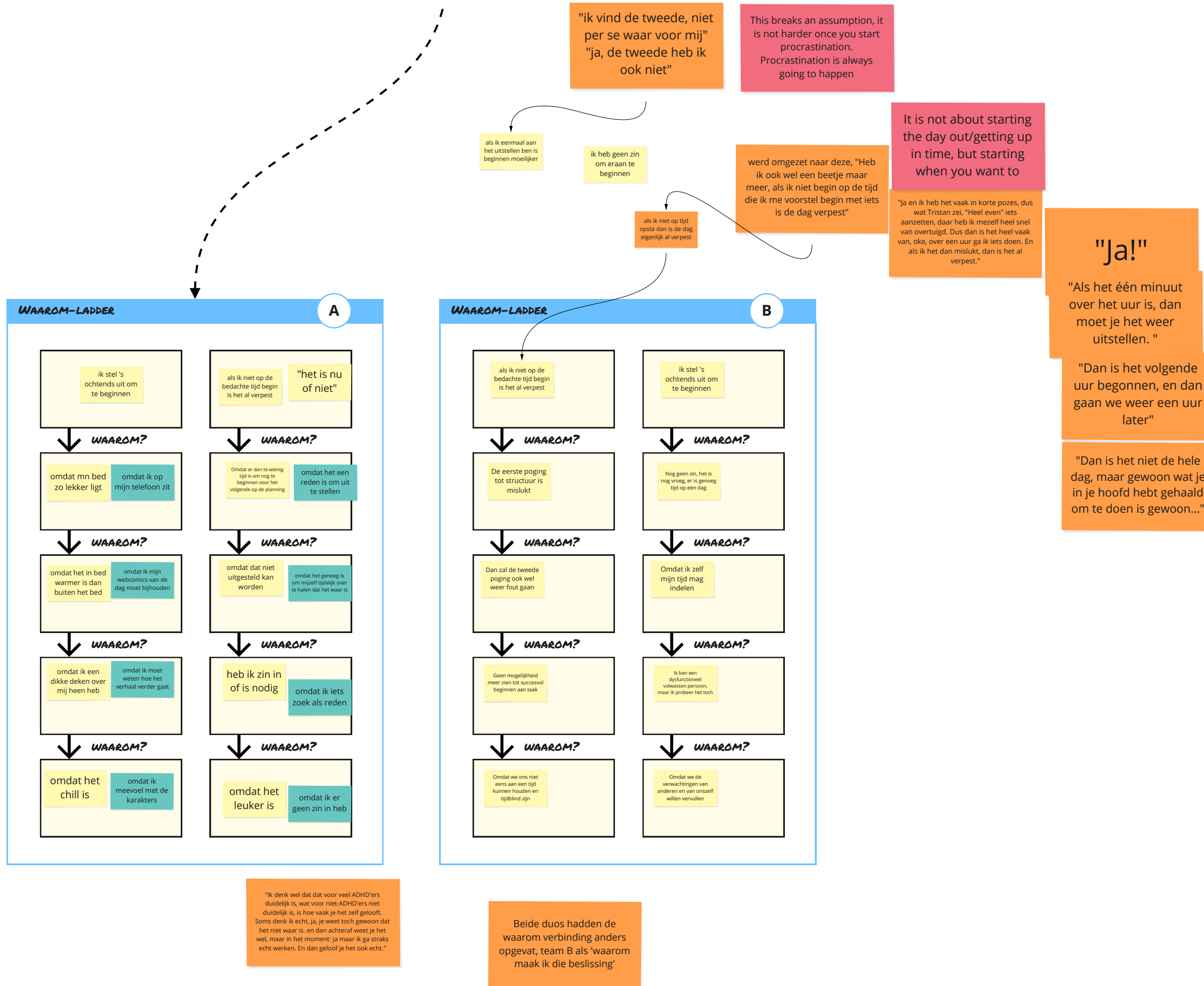
"Dan voel ik me echt heel erg kut, dan denk ik eueuh, en dan kom ik daar niet uit"

"Een vergevorderd stadium in het uitstellen is zelfhaat"

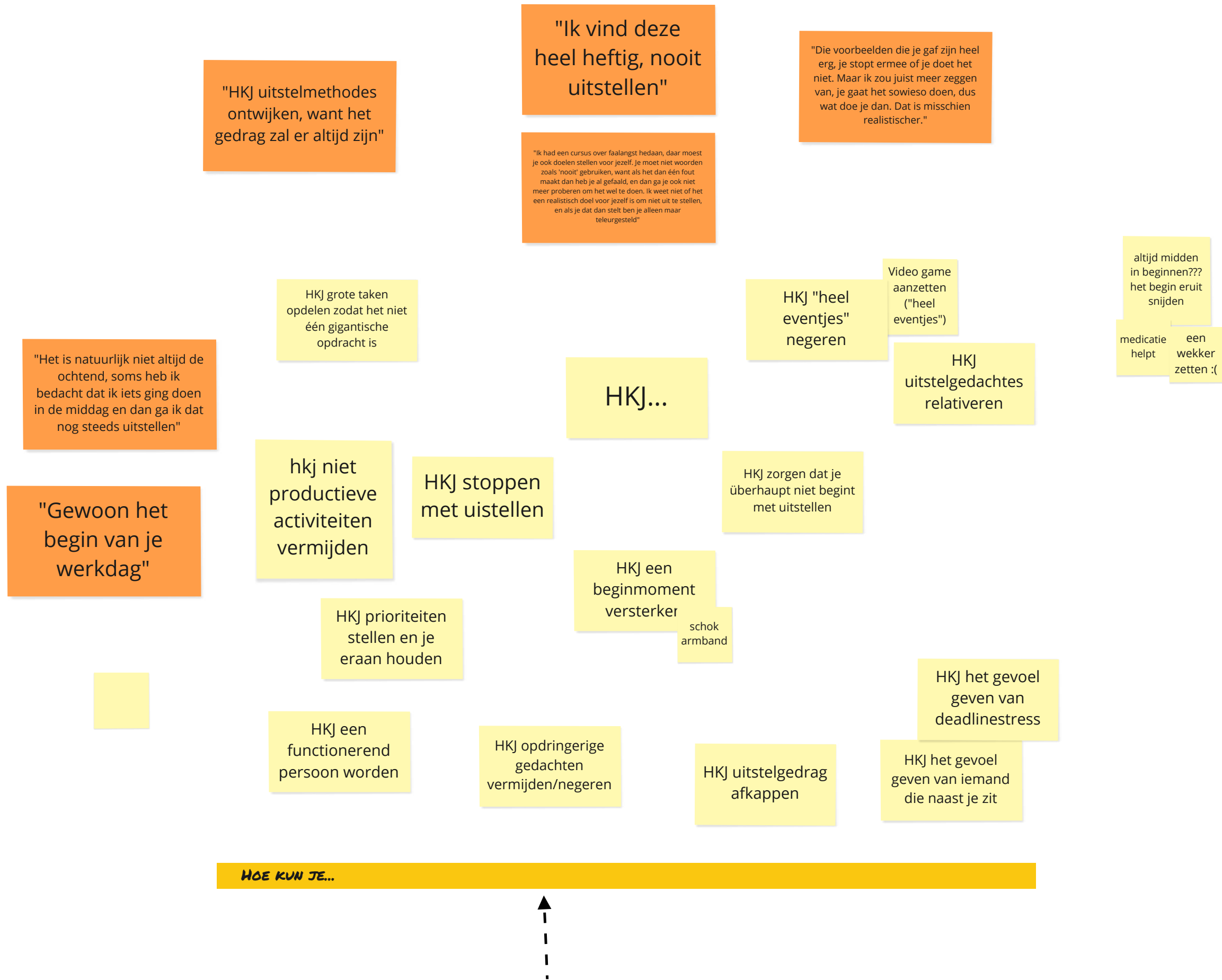
"Soms word je ook gewoon catatonisch, dan je dan foetushouding, dan lukt alles niet meer. Maar dan is het misschien niet meer echt uitstellen, maar een stadium verder."



④ Five why's



⑥ Writing how 2's



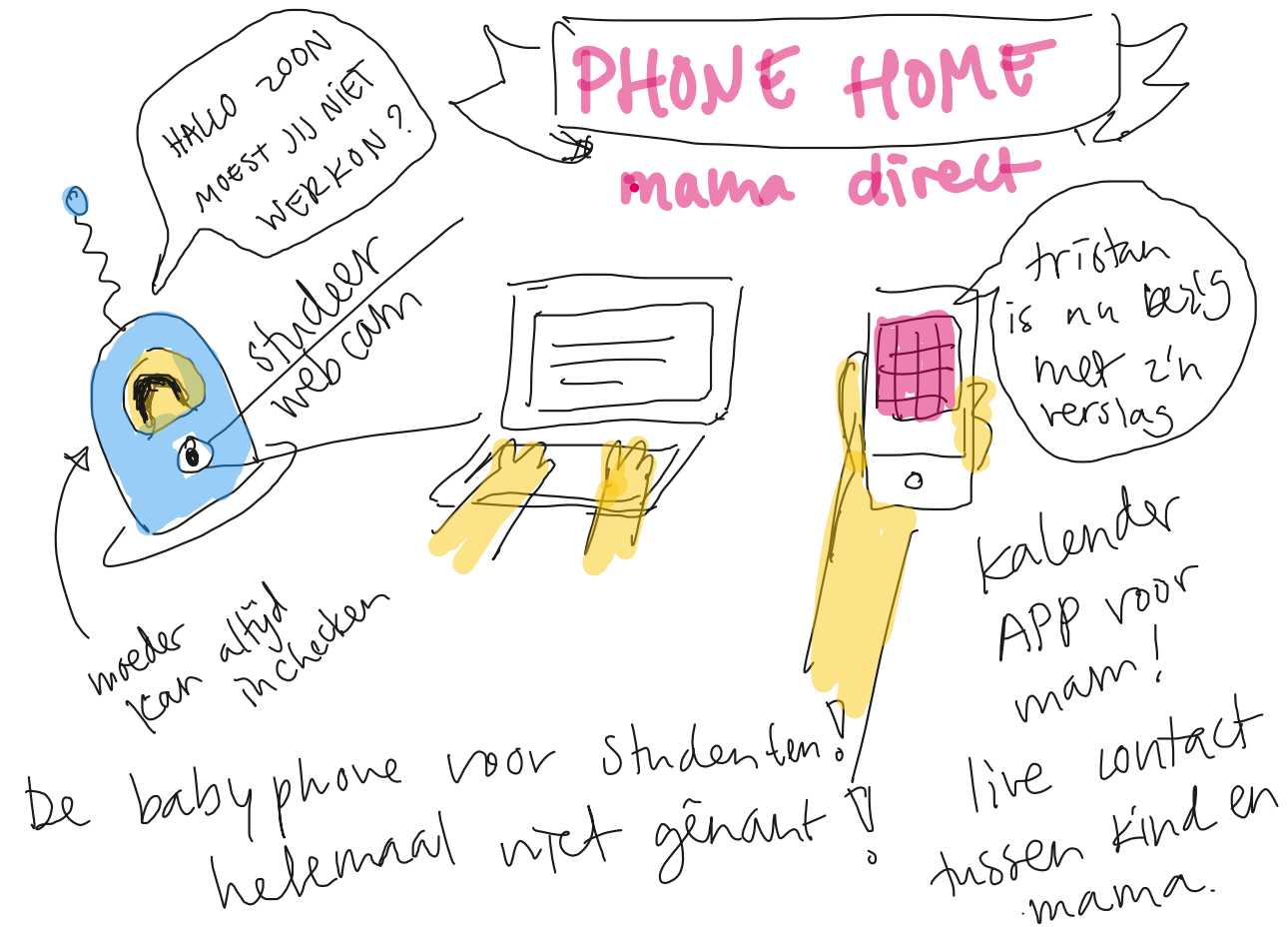
7 Brainstorming

HOE KUN JE...



⑧ Pitching ideas

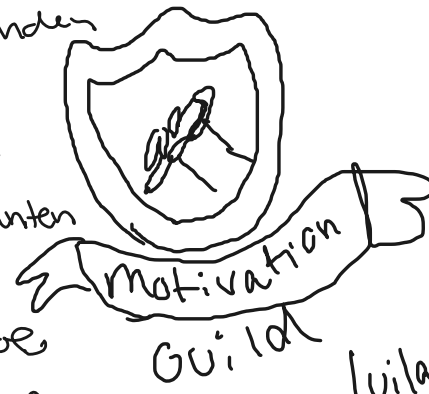
HOE KUN JE...



App: Soort van guild systeem

tijdgebonden taken:

- >1 uur
↳ meer punten
- andere taken: hoe sneller hoe beter



Nationaal niveau

doe je je taken niet?

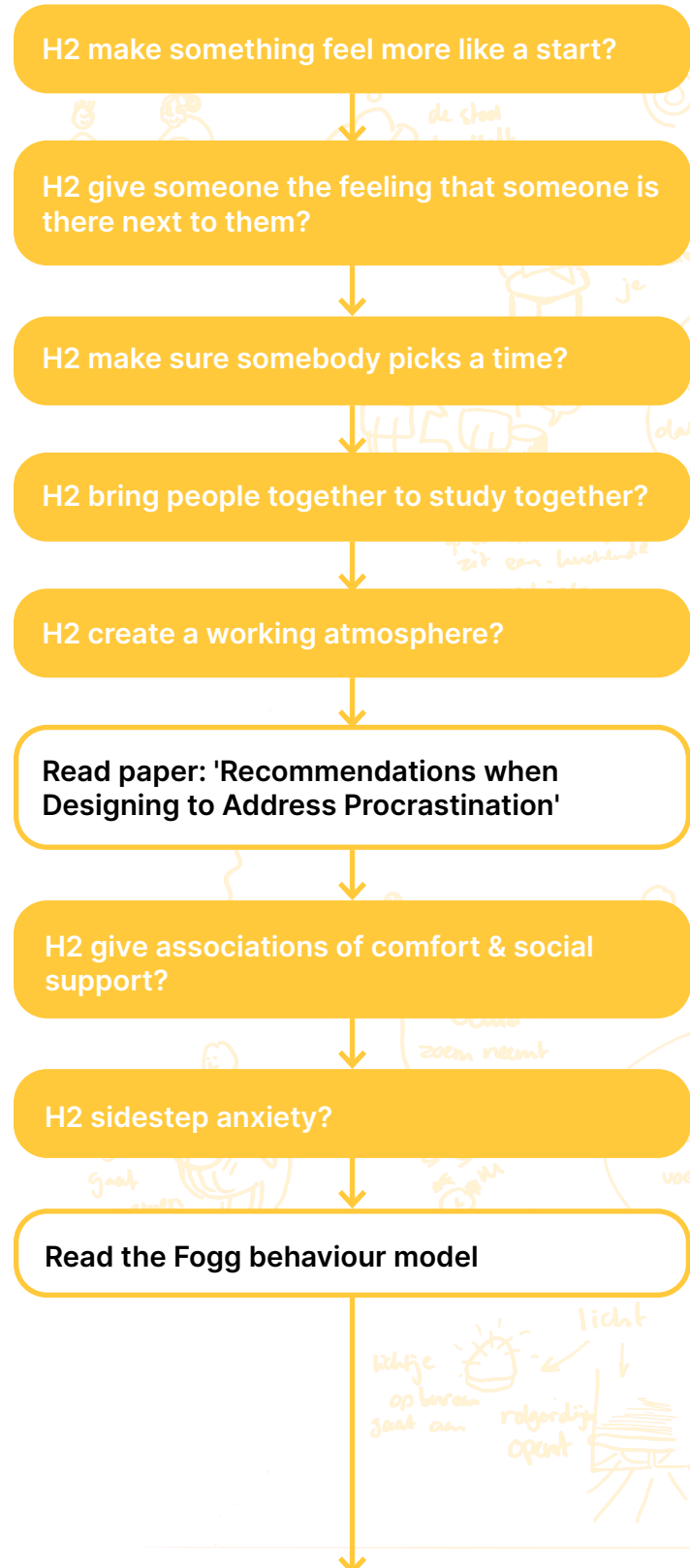
bewijs sturen dat iets af is



af?
beloning! ☺
decoratie of stickers of accessoires oid

Appendix F: Ideation 1 process

Ideation was largely unstructured, so it is difficult to give a good overview of the process. There was a lot of reading papers on procrastination, drawing H2's, listening to podcasts, back and forth. On these pages, I will list all the activities I did during this phase, to give an indication of the amount of work I did. The ideation drawings, used here as a background, can be found in appendix FIXME.



The three task types, & why they may hit harder for people with ADHD

This paper concurred with a lot of the insights I had from the Phase 1 Generative research and the Phase 2 co-creation session.

In phase, I had asked participants which activities where easier and harder for them, and a lot of the mentioned tasks fall into one of the three types that are isolated by Blunt and Pychyl, as mentioned in the review of Andraea et al. (2019) :

- Tasks that cause anxiety, when people are unsure of what is involved, of their ability or if the consequences of failing are high
- Tasks that are tedious, when people perceive the tasks to be unengaging or unstimulating;
- Tasks that are effortful for low perceived reward, when people get little in return for their hard work.

And this seems to resonate with a lot of what my participants have said as well. For all of these categories, it can be reasoned that the negative effects may be greater for those with ADHD.

For anxiety: The comorbidity rate between ADHD and anxiety disorders is reported to be 23.05% (Souza et al. (2005)), or even as high as 47–53% (Kessler et al., 2005). This does not mean that all people with ADHD are anxious, or that the anxiety manifests as avoidant behaviour towards tasks. But people with ADHD are more sensitive to a fear of failure, a result from Rejection Sensitive Dysphoria. "People with [rejection sensitive dysphoria], estimated to affect 99% of adolescents and adults with ADHD, exhibit greater sensitivity than most to rejection, and one-third consider it the most difficult aspect of ADHD." "The result is immense emotional pain from perceived failure to meet one's own or others' expectations." (Bedrossian, 2021)

Tedious tasks & high effort, low perceived reward tasks: We have discussed ADHD as a chronic deficit of stimulation before. People who are already understimulated should find unstimulating tasks extra hard to start. Secondly, this understimulation also means there is a lower feeling of reward when they finish things, leading to the perception beforehand that some tasks will not be rewarding. Thus, tasks will more easily fall under the categories of being tedious or unrewarding.

Recommendations when Designing to Address Procrastination

In the proposed framework by Andraea et al. (2019) they discuss two perspectives: the willpower perspective, and the emotion-regulation perspective (which is where the three task types are discussed), both of which offer three strategies to reduce procrastination, as seen in .

In analysing which solutions already exists, two

emotion regulation perspective:

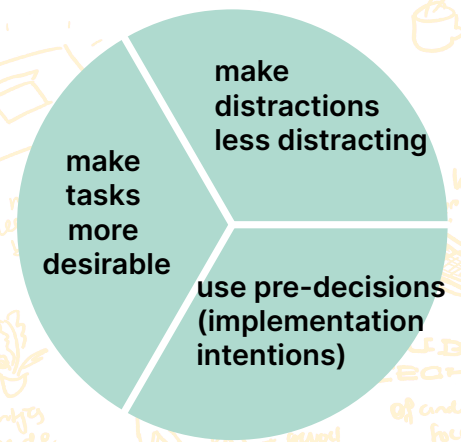
background: you avoid tasks because of an emotional response
 ↓
 solution: take an approach based on the type of task



figure 2.01: six solution directions for design for procrastination

willpower perspective:

background: willpower is a finite resource, which people use to forgo distractions.
 ↓
 solution: reduce how much willpower you need



Fogg behaviour model

'A behavior model for persuasive design' (2009), by BJ Fogg, poses that three elements must be present at the same time for a behaviour to happen: Motivation, Ability, and a Trigger.



You need a motivational element, a SPARK. This can be pleasure/pain, hope/fear or social acceptance/rejection.

You only need to be reminded/indicated to start. You need a SIGNAL.

You need a FACILITATOR to tell you that actually, you are able to do it, or to tell you how to.

figure 2.02: the three Fogg behavior cases

strategies jump out. The first are apps solve 'tasks that induce anxiety' by offering breathing/posture/relaxation exercises. The Headspace meditation app comes to mind. The second is the strategy to 'make distractions less distracting', either by removing distractions (app/website blockers), pleasantly overwhelm (Focus@Will and other music/ambient sound apps), or by applying negative reinforcement (A Forest app).

All strategies, with example applications that already exist, can be found in appendix FIXME.

H2 give associations of comfort & social support?

H2 sidestep anxiety?

Read about mens rea: the guilty mind

Read about Self-forgiveness & Mood

Read Timothy A. Pychyl: Procrastination as an emotion management problem

H2 make long-term benefits feel more present?

H2 give people the feeling they have the license to stop anytime?

H2 get people to stop working?

H2 get people to make a specific intention

H2 use guilt and shame to get people to do something?

H2 give people the push to start right NOW

Select 8 broad ideas

Discuss and spar about these ideas

Select 5 ideas

The guilty mind of the procrastinator

In 'Structured Nonprocrastination: Scaffolding Efforts to Resist the Temptation to Reconstruct Unwarranted Delay' (2016), Joel H Anderson defines procrastination as Culpably (1) Unwarranted (2) Delay, meaning to count as procrastination, putting off a task should involve:

1. you being responsible for not acting, because there are no circumstances to excuse you to not act or not realise:
2. that there are predominantly good reasons not to put it off.

The person who participates knows this, and because of that, something like the 'mens rea', or guilty mind, applies. Anderson quotes Kathie Jenni to say: "Humans' capacity to avoid unpleasant awareness is remarkable in its versatility."

One caveat of applying this definition of procrastination on our situation is that ADHD can be considered a mitigating circumstance. In a way, it makes the person a little less culpable. My assumption is that, seeing as guilt came out as a large factor in my earlier research, the 'guilty mind' still applies here.

The necessity for self-forgiveness

We know from research that it is better to forgive yourself for procrastination than to feel guilty. The people who were able to self-forgive get more done than those that do not. "Learning to forgive the self for procrastinating will likely be beneficial by reducing procrastination, but also more generally by promoting feelings of self-worth and more positive mental health." (Wohl et al., 2010).

Negative emotions, such as the guilt from procrastination, only lead to more procrastination. Martinčková, L., & Enright, R. D. (2018) found that the relationship between shame-proneness and procrastination was fully mediated by negative emotions. Therefore, if we want somebody to procrastinate less, we may want to take the route of positively influencing their emotional state.

Prioritising your current mood over long-term goals

This is relevant, because procrastinators are likely to give priority to this emotional state above long-term goals (Sirois & Pychyl, 2013). As Sirois & Pychyl put it, "We burden a future self with paying for our inaction now."

Procrastination as an emotion management problem

Timothy A. Pychyl, co-author of two of the three papers I just discussed, is a fervent researcher and writer on procrastination. In the ADHD Experts podcast (Pychyl, 2015), he likes to define procrastination as an emotion management problem, instead of a time management problem. What this means is that some forms of delay can be helped by bettering your time management habits, or figuring out exactly what needs to be done, but for real procrastination, the blame is on you, in line with what Anderson has posed (2016).

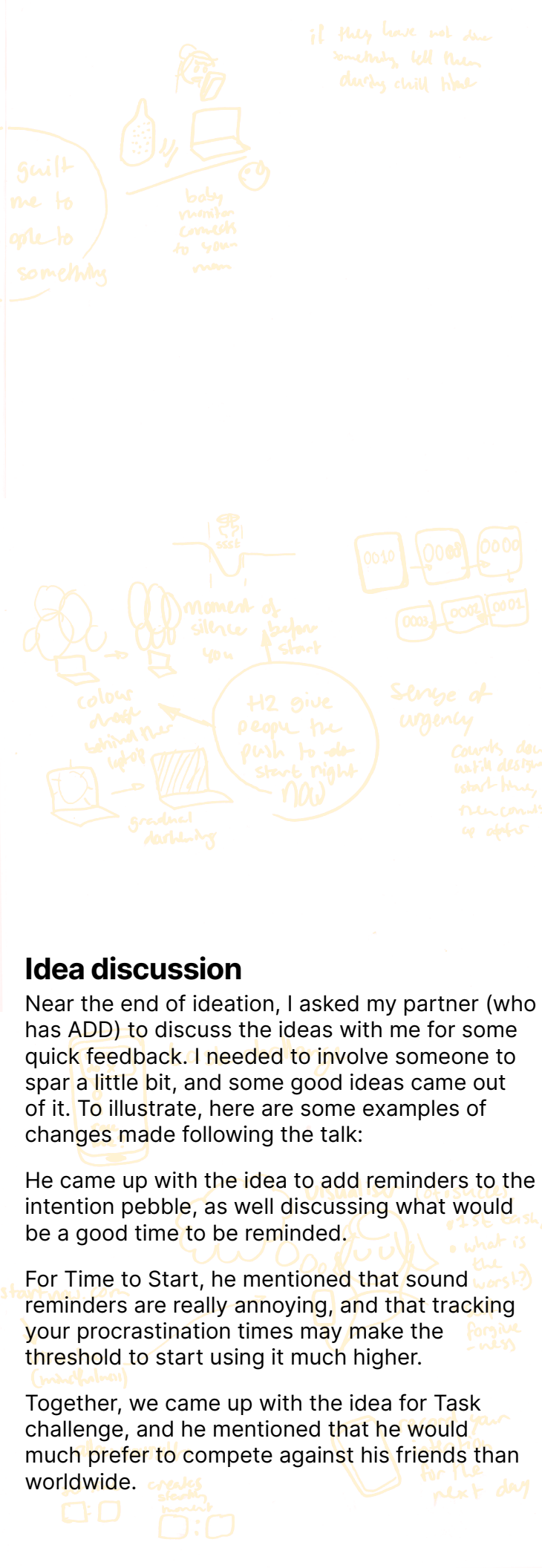
This means getting started, for the procrastinator, will always be a bitter pill to swallow. However many precautions, systems, and intentions you have in place, there will always be the moment where you have to say: "Well, I'll just get started." You have to take one little step, even if you don't feel like it.

To learn to self-regulate is to struggle with your own agency, to take up the responsibility to make your own choices. As he puts it: "Procrastination is a deeply existential issue. It is about living the life you want."

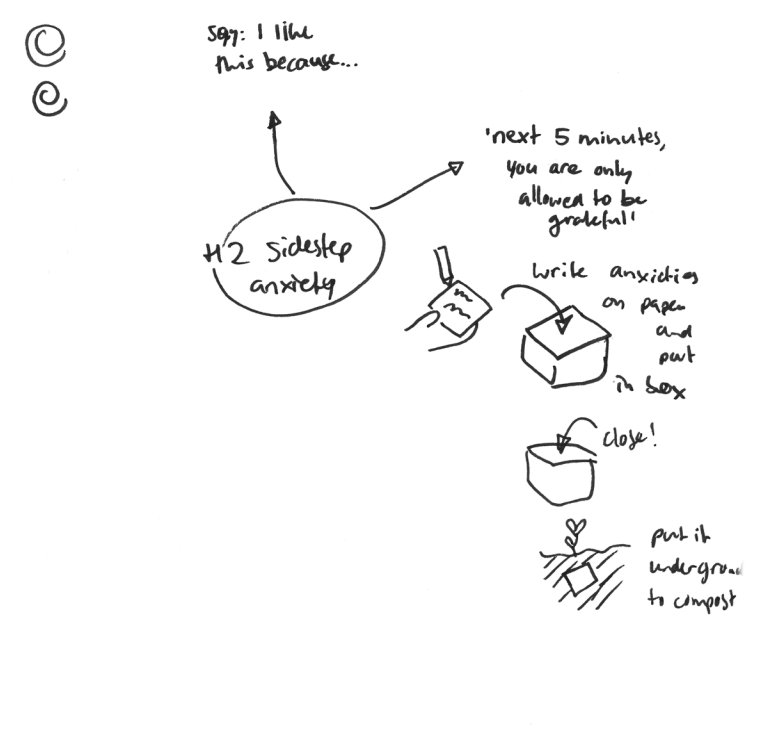
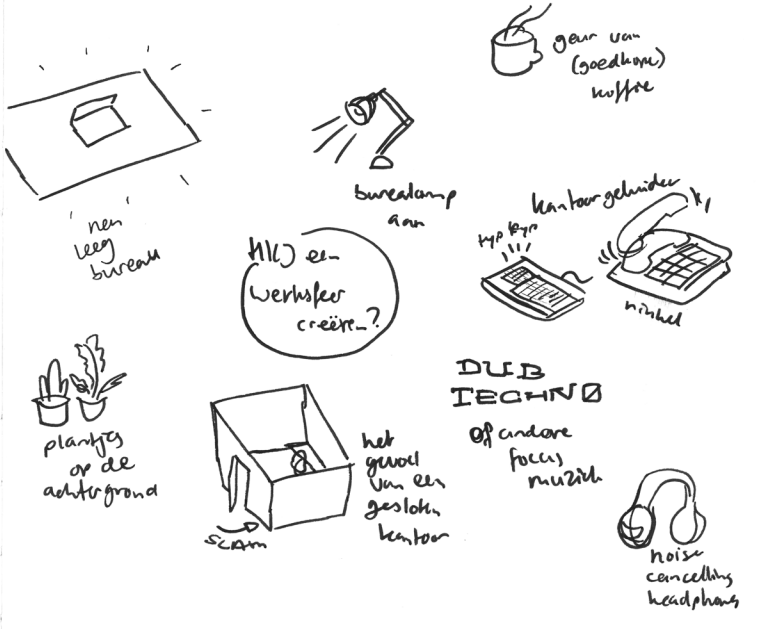
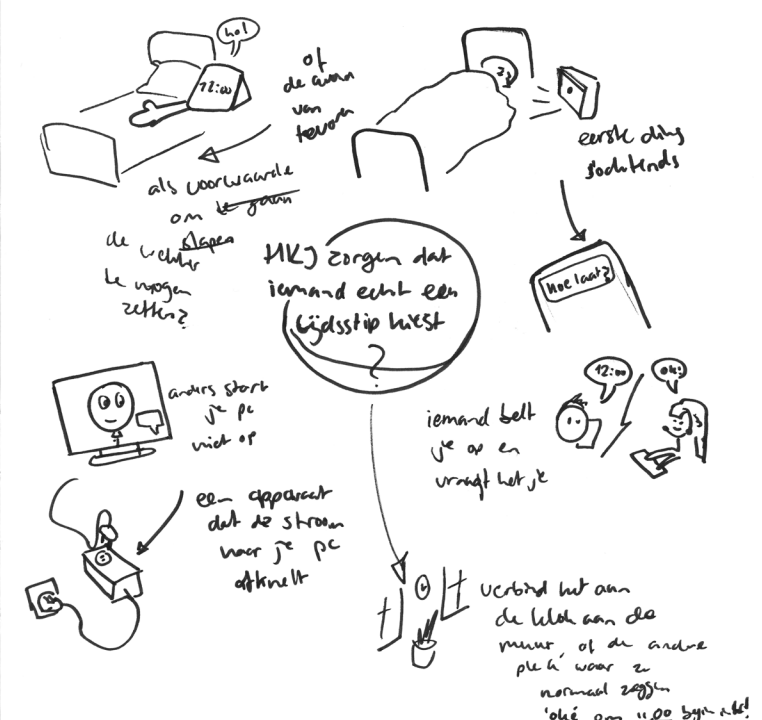
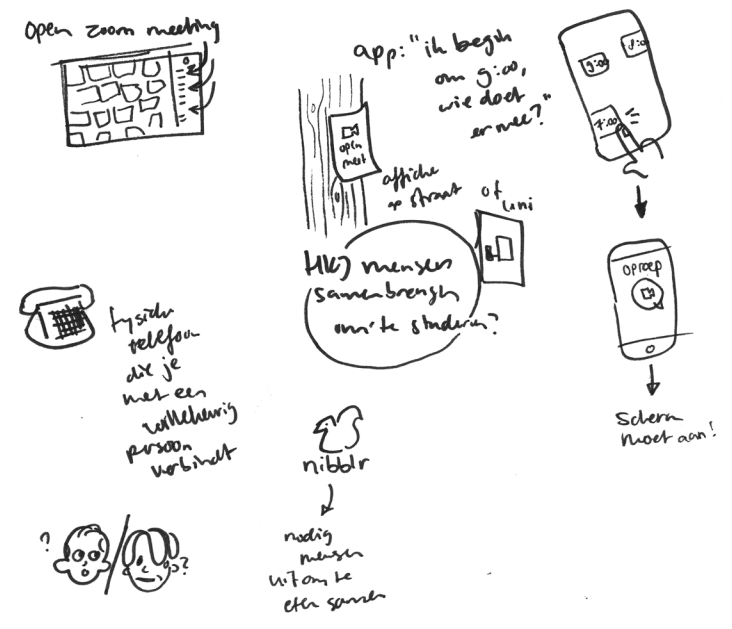
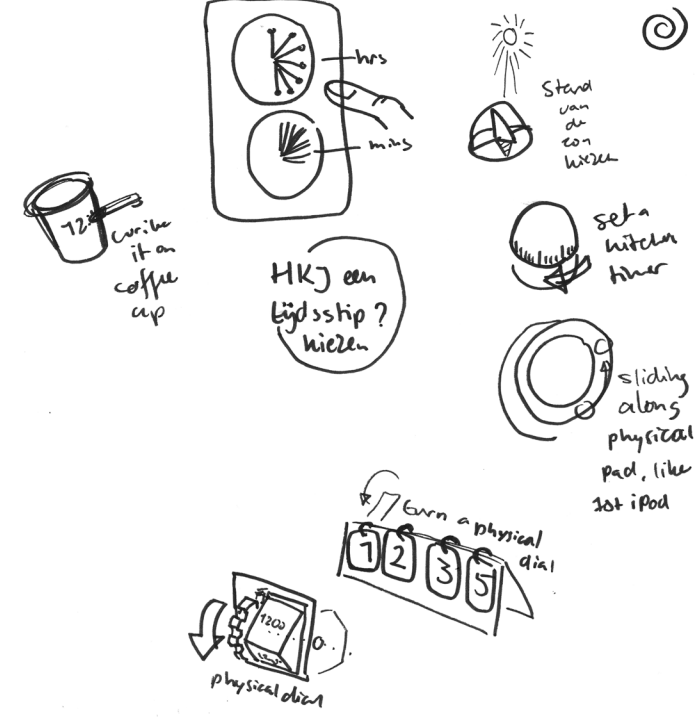
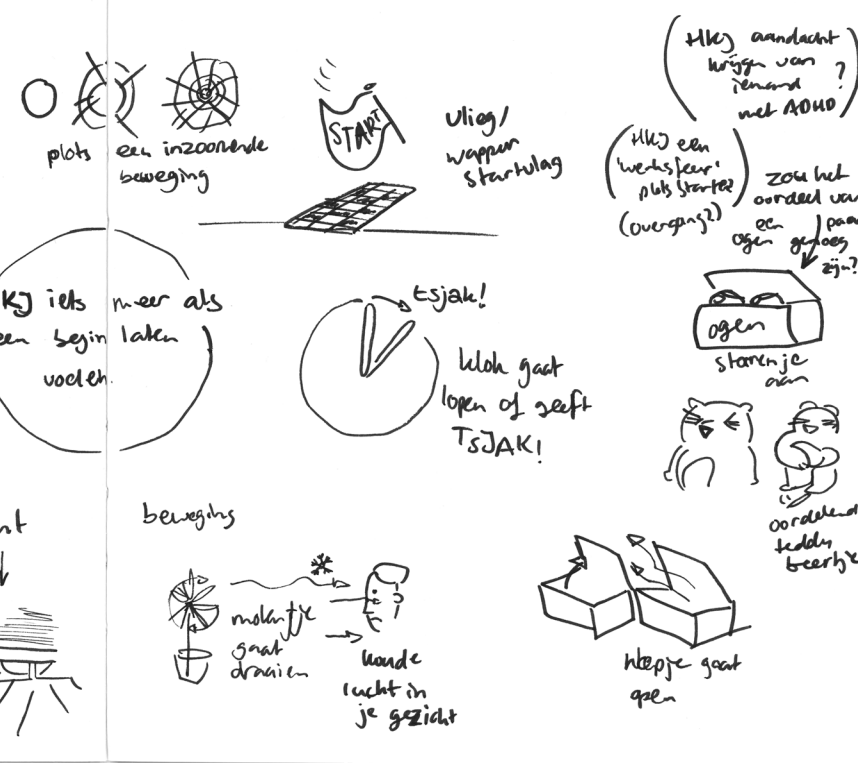
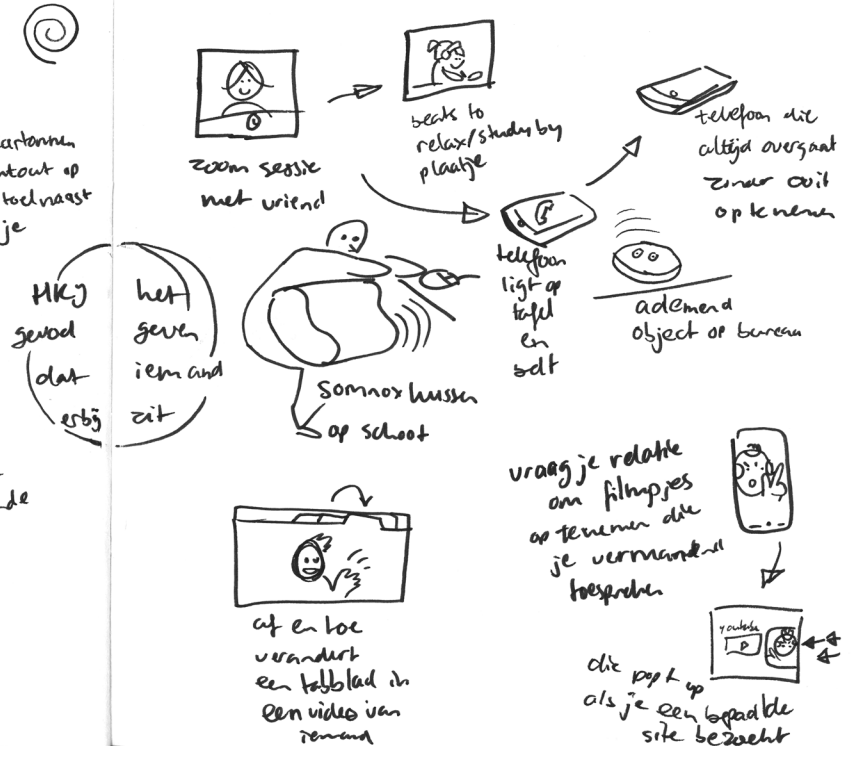
That makes 'real' procrastination very hard to solve. But, according to Pychyl, there are some emotion-regulation steps that can be taken to cope. Such as mindfulness, to grow the realisation that you feel emotions, not that you are emotions. Or to remind yourself that you always have the license to stop (even if you only got one thing done), to lower the burden when getting started.

The takeaway is that, while we can lower the barrier towards that starting point, the starting point itself is and should always be the responsibility of the person themselves.

Besides this, while I believe the narrow definition of procrastination that Anderson and Pychyl provide are a useful framing of procrastination behaviours for individuals to look at their own lives, it ignores a lot of the problems underlying delay (such as not knowing where to start, distractions, etc) that plague people with ADHD even more than the general population. For this reason, I will not be using the definition of 'culpably unwarranted delay' in defining procrastination, to include these other underlying problems.

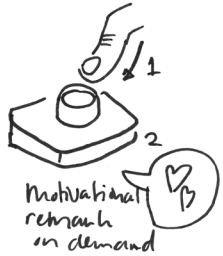


Ideation 1 process



Workbook
What are the benefits?...

write notes and put it right



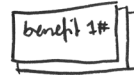
force yourself to tell a friend why it has to be done?

H2 make long-term benefits feel more present

isn't it nice to be done??

Marking questions on your screen

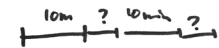
on a similar task



write cards



pull out when you have to start again



break it down into smaller time segments

I can stop myself

monitor keyboard mouse installer

stopping is a definite advantage your PC shuts off immediately



urgently create a fake emergency at will

H2 give people the license they need to stop any time

H2 set people to stop working

sets called by a friend



ask (out loud) for what you want

H2 get people to make a specific intention



think of all the procrastination moments, and set an intention

→ what time?
→ how?
→ where?

why now ladder: [I will... how? ... how? ...]

fill in sentence: tomorrow, at [], I will [] by []

"what do you want to get done today?" bottom line first

make it less scary → specificity is good → you can always go up later

what will I do?
how will I do it?

what does it feel like to be done?
guided visualization of results

name all the things they procrastinate on

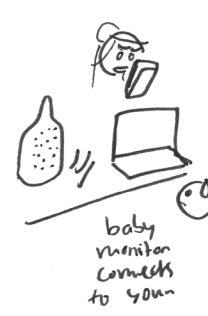
if you don't do it, the string will be cut



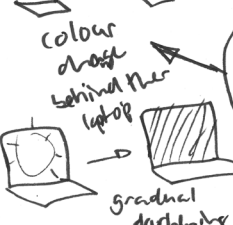
a camera records you until you press the button to say you've started working then it plays back video of you procrastinating

Or send it to friends

H2 use guilt and shame to get people to do something



if they have not done something, tell them during child time

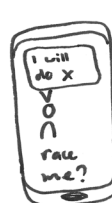
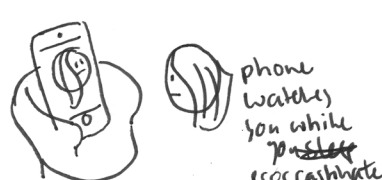
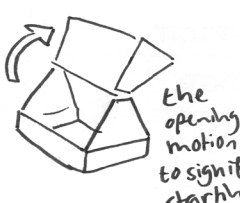


H2 give people the push to start right now

sense of urgency
Counts down until designated start time, then counts up after

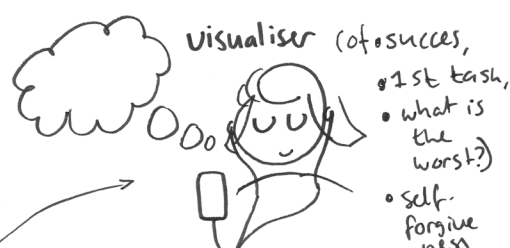


stimulation selector



task challenge

Website: I'm gonna start now.com
↓ intentions (I don't know now)
↓ visualise (mindfulness)



allow yourself:
set time [] creates steady moment []



Recommendations when Designing to Address Procrastination: A Psychological Perspective

A more detailed view of the different solution directions proposed in the paper by Helen Andreae, Abigail Durrant & Steven Kyffin (2019)

emotion regulation perspective:

background: you avoid tasks because of an emotional response

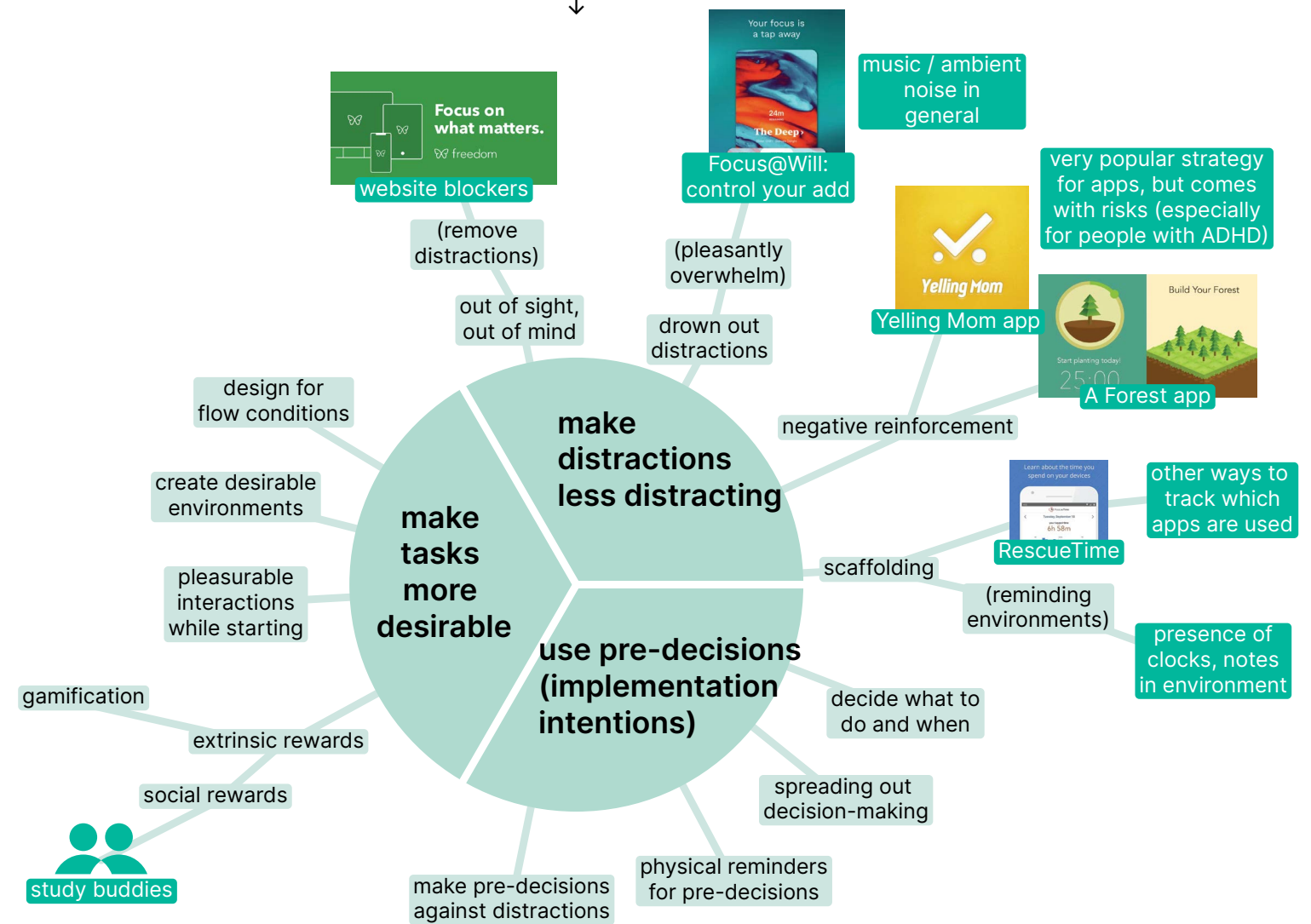
solution: take an approach based on the type of task



willpower perspective:

background: willpower is a finite resource, which people use to forgo distractions.

solution: reduce how much willpower you need



Appendix G: the Harris profile method explanation of criteria

The Harris profile FIXME is an easy visual way to choose between concepts or scenarios, based on criteria of decreasing importance.

Each concept is rated on each criterium as [--], [-], [+], or [++]. Criteria at the top are usually more important, and thus any of the concepts can seem to 'lean' more to the right or to the left.

The criteria: requirements & preferences

The criteria are split among three categories: Main requirements (these are mostly from the project brief), requirements based on the research done, and preferences based on the same.

- ### Main requirements
- ① It should help users procrastinate less
 - ② It should be fit for adults with ADD/ADHD
 - ③ It should be usable on/around the home desk
 - ④ It should be original

Requirements from the research

- ⑤ There should be a low barrier to buy/start using it
- ⑥ It should address second-order procrastination
- ⑦ It should take the user and their ADHD seriously
- ⑧ It should not make the user dependant on it to get things done
- ⑨ coercion/judgement/negative reinforcement only if the user makes a conscious choice for it

As one participant put it during generative research: "What works, works. But [the solution shouldn't be] too difficult, cost too much time, I can implement it just like that, then I'm fine with it."

Second-order procrastination is procrastinating on solving the problem of procrastination. If the solution offers an intermediate step that users need to take, that is perceived as being just as effortful as actually starting, nothing is solved.

Humour is okay, but it is important to stay away from being condescending.

Preferably, it would focus more on learning skills or teaching expectation management than making itself essential in a person's day-to-day life.

From the generative research insight: "No person with ADHD likes a judgmental app. Combined with the earlier conclusion that people with ADHD are sensitive to judgment and rejection: no red flashing signs when you have failed to complete a task in time. The exception to this is when the person has made a conscious choice for this, as a consequence."

Preferences from the research

- ⑩ It should have a physical component and not exist (only) in digital space
- ⑪ Stimulation should be as much under the control of the user as possible
- ⑫ It should give users the feeling they can do things 'their way'
- ⑬ It should create a 'working atmosphere'

In the project brief, I have expressed the aim to make a physical product, though other options are not excluded.

From an insight from generative research: "In general, there should be little stimulation coming from the space itself. Quiet places like the university library were mentioned. It seems that for a stimulation to be useful, it should be under your control, like music."

From the generative research insight: "[...] most people with ADHD do seem to have a strong desire to do things 'their way'." If the concept makes a lot of specific process choices for them already, they may be less likely to adopt it.

