Research and Design with the Identity-Related Factors to Increase Stroke Survivors' Motivation for Rehabilitation

M.Sc's Graduation Report

This is a project aiming at increasing post-stroke patients' motivation to do the rehabilitation via researching and designing with the identity-related factors.

Delft University of Technology
Faculty of Industrial Design Engineering

Design for Interaction

Weiwei Kang

March-October2023

Supervised by

Dr. Valentijn Visch (Chair)
Dr. Jos Kraal (Mentor)
MSc. Samantha Orozco Carvallo (Client)

Contact

Weiwei Kang

Preface

Throughout this project, two primary challenges were encountered. The first pertains to ***the nebulous relationship between identity and motivation*** from a theoretical standpoint, which initially rendered the theoretical research somewhat disorganised. The second challenge emanates from the ***potential cognitive and physical impairments*** exhibited by post-stroke patients, which imposed constraints on various aspects of the research, including the duration of interviews, the complexity of interview questions, and the range of activities feasible during both interviews and design sessions.

The project spanned six months and encountered significant delays due to the protracted approval process of the Human Research Ethics Committee (HREC). Despite these setbacks, the project was completed within the stipulated timeframe. The accompanying image, as shown in Figure 1 delineates the chronological progression of the project over the past months.

Figure 1. project process

As the principal investigator and designer, I achieved substantial progress in fulfilling my pre-established learning objectives, thereby satiating my intellectual curiosity in theoretical and practical dimensions. Although the project did not definitively elucidate the relationship between identity and motivation, the incremental contributions to existing theoretical frameworks hold potential for future advancements in this domain. Consequently, even the indeterminate outcomes of this research possess intrinsic value when viewed from a broader academic perspective.

I want to extend my heartfelt thanks to everyone who played a crucial role in helping me finish my master's thesis:

To my supervisors, Valentijn, Jos, and Samantha: Your guidance, expertise, and patience were invaluable. Thank you for your consistent feedback and commitment to ensuring my work reached its highest potential.

To Suzanne and Zexuan, the translators: Your dedication to translation and communication enhanced the quality of my research. Your insights and time have expanded my understanding immensely.

To the therapists from Rijndam, Sam and Marc: Your contributions, especially in field research and evaluation, have been crucial. I'm inspired by your perspectives and grateful for your involvement.

To my family, Mom and Binbin: Your belief in me and constant support are beyond words. I can't thank you enough for everything you've done to help me through this journey.

And to my cats, Jul and Bob: Your comforting presence during countless sleepless nights kept me grounded. You brought warmth and joy during stressful times.

Thank you all for your invaluable contributions and support.

Executive Summary

With the prevalence of stroke being notable in the Netherlands, there's a growing interest in understanding the psychosocial elements that guide the rehabilitation process. This study aims to develop an intervention tool to inspire greater motivation in stroke survivors to actively participate in their recovery activities.

This research, conducted as part of a master's graduation project, targets enhancing the motivation of post-stroke survivors to partake in both clinical and at-home rehabilitation. This involves examining relevant external factors and designing interventions in collaboration with the survivors themselves.

The research is primarily centered around patients from Rijndam Medical Centre, known for its wide-ranging post-stroke rehabilitation cohort and its partnership with Erasmus MC.

Two main methodologies frame this study: the Design Thinking "Double Diamond" Process Model and the Co-Creation design method. The former offers a fluid approach encompassing four stages – discovery, definition, development, and delivery – which can transpire simultaneously. The latter emphasizes active participant involvement, granting firsthand insights and feedback. Based on the insights from Co-Creation, the research involved qualitative analysis, ideation, and culminated in the project's final design and evaluation.

Initially, identity was presumed to influence the psychological constructs impacting motivation. Field research affirmed the role of external factors in shaping identity and motivation. This led to the formulation of a table categorizing factors affecting motivation, serving as a foundation for further exploration on enhancing stroke survivors' motivation for rehabilitation.

However, due to limited participant involvement, the precise relationship between identity and motivation couldn't be firmly established. Current findings suggest that focusing on stroke survivors' overall well-being and social connections may be more beneficial than solely emphasizing identity within intervention tools.

Given the research's six-month duration, future in-depth studies are recommended for those keen on this topic. It holds promise for refining post-stroke intervention strategies.

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01 Introduction

In the opening section of this thesis, I provide a basic overview that sets the stage for the research. This study focuses on creating a program to help people who have had strokes feel more motivated to take part in activities that will help them get better. This first section explains why this work is important, identifies the problems faced, and gives a brief look at what kind of research has been done in this area before. It also sets out the goals and limits of this study and presents the main questions that the research aims to answer.

Next, I give a short summary of the research methods used, going into more detail on each step taken in the process.

To wrap up this section, a guide is included to help readers understand what to expect in the chapters that follow.

1.1 PROJECT INTRODUCTION

BACKGROUND

Relevant Domains

This project mainly studies the motivation for post-stroke rehabilitation, involving post-stroke intervention, rehabilitation care, and behaviour domains.

Background

Stroke and Rehabilitation

A stroke, which refers to a cerebrovascular accident (CVA), is a medical phenomenon characterised by the cessation of blood flow to a brain region, culminating in neuronal damage. This interruption manifests in a myriad of physiological and cognitive impairments. According to the Dutch Stroke Foundation (Harstichting), annually, the Netherlands witnesses approximately 41,000 stroke incidences, underscoring its prominence as a leading cause of morbidity and mortality, as shown in Figure 2. After the acute medical intervention, stroke survivors embark on a post-stroke rehabilitation journey. This phase, indispensable for restoring lost abilities and enhancing the quality of life, needs a multidisciplinary approach, involving professionals ranging from physiotherapists to rehabilitation specialists.

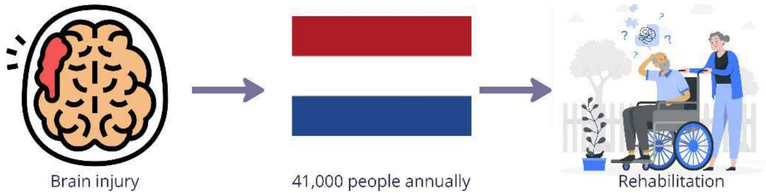


Figure 2. project background

Motivation in Post-Stroke Rehabilitation

Motivation, the psychological impetus steering human behaviour, is pivotal in the rehabilitation milieu. Research has delved into the multifaceted dimensions of motivation, elucidating both intrinsic and extrinsic determinants in the post-stroke rehabilitation landscape based on the Self-Determination Theory. Research has shown that leveraging self-efficacy and motivation can optimise post-stroke recovery by understanding the neurological underpinnings (Gangwani, Cain, Collins, & Cassidy, 2022). Concurrently, innovative strategies, from patient-led therapy to technological interventions, have emerged, aiming to improve motivation. The connection between psychosocial constructs, such as hope and autonomy, and rehabilitation motivation further emphasi the complexity and significance of this domain.

Research Gap

Despite the extensive research data bank, data interpreting the interrelation between identity, social integration, and motivation remain fragmented. This gap, especially in how psychosocial paradigms influence post-stroke rehabilitation motivation, presents a compelling avenue for exploration, laying the groundwork for the present study.

PROBLEM STATEMENT

The phase during which individuals who have survived a stroke are discharged from medical facilities and enter a home-based care environment is termed "transitional care." This process facilitates their reintegration into societal contexts, thereby supporting ongoing rehabilitation. Given that these survivors may confront various challenges—such as the abrupt disruption of daily life due to the stroke, acclimating to an unfamiliar home setting, grappling with uncertainties in their environment, and adapting to a transformed sense of self (Connolly & Mahoney, 2018)—this transitional period holds significant implications for the formation of their new identity and future quality of life. Consequently, I hypothesize that targeted interventions during this critical juncture can augment patients' motivation for sustained rehabilitation, both within clinical environments and in home settings.

Existing literature offers fragmented insights into how interpersonal interactions and societal integration sculpt an individual's self-concept. Moreover, a rapidly developing interest exists in understanding how psychosocial constructs, such as social support, autonomy, and hope, interplay with this dynamic as patients navigate the rehabilitation journey (Hole et al., 2014).

Figure 3. aim & scope

In this study, my goal is to look into what makes stroke patients want to keep going with their healing activities after they've had a stroke. I will study how motivated these patients are when they are in a hospital or clinic. Then, I'll try to figure out what helps them stay involved in their own recovery when they get back home, especially looking at how their sense of who they are affects this. Later stages of the research will require finding out what kinds of programs work best in different settings to create the best healing environment for each patient.

AIM & SCOPE

Within the context of a master's student graduation project, the primary objective of this project is to increase the motivation of post-stroke survivors to engage in clinical and domestic rehabilitation, as shown in Figure 3. This will be achieved by investigating related external factors and collaboratively designing interventions with the post-stroke survivors.

To align with this objective, the research will be narrowed down to patients at the Rijndam Medical Centre, a facility renowned for its diverse cohort of post-stroke patients undergoing rehabilitation and its collaborative ties with Erasmus MC, Rotterdam, NL.

RESEARCH QUESTIONS

Based on the background information above, there are the main research questions:

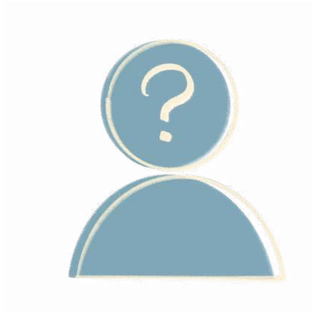
(in the research phase)
What kinds of factors can make stroke survivors feel like a patient or not like a patient?

(in the design phase)
-What kinds of design elements will support shaping the ideal situation that can motivate stroke survivors best to do the post-stroke rehabilitation?

CHALLENGES

The Research on the Identities

In prior scholarly investigations, the data about identity-based motivation within post-stroke rehabilitation was fragmented, indicating a lack of comprehensive experiences from which to draw insights. Nevertheless, we assume that the concept of identity serves as a salient focal point in this context. This is because shifts in self-perception exert a considerable impact on the attitudes of post-stroke survivors toward



their experiences in both clinical and home-based rehabilitation settings. As a result, our research aims to explore in greater detail the various factors that are intricately linked with identity formation and transformation.

In light of this focus on identity, I encounter multiple challenges that warrant attention. First, the inherently abstract and complex nature of identity, which can be elusive even for the general population to fully comprehend, requires the careful formulation of interview questions. This is particularly important for accommodating participants who may have cognitive impairments. Second, the lack of a well-established theoretical framework presents a challenge, as it leads to a dearth of reference points. This could further complicate the design and data analysis stages of our research.

Uncertainty of the Outcomes

The potential outcomes may manifest in diverse directions, given the ambiguous relationship between identity and motivation. This introduces a degree of uncertainty in various facets of the project, including the research findings, the presentation format of the outcomes, the trajectory of design, and the methodologies employed for evaluation.

OPPORTUNITIES

The Connection between Identity and Motivation

The Identity-Based Motivation theory posits that external factors, within a specific context, shape one's identity, leading to judgments of either alignment ("it's for me") or misalignment ("it's not for me"). These judgments, in turn, drive behavioral changes (Oyserman et al., 2017). Similarly, research informed by the Self-Determination Theory suggests that external factors influence extrinsic motivation, which then leads to behavioral modifications (Yoshida et al., 2021). Integrating these perspectives, I hypothesize that external factors influence judgments of identity alignment, which subsequently affect motivation and lead to behavioral changes. Therefore, exploring the intricate relationship between external factors, identity, and motivation constitutes a significant and compelling area of research.

Related Factors Towards Different Identities

In light of the fragmented data related to factors that influence various identities within the post-stroke context, there exists a valuable opportunity to create a comprehensive mapping of this subject area. This project aims to consolidate disparate pieces of information, thereby offering a more holistic understanding of the interplay between identity, external factors, and motivation in post-stroke rehabilitation.

Implementation in the Future

Given that post-stroke rehabilitation has a significant impact on individuals' quality of life following a stroke, optimizing their motivation for rehabilitation is of utmost importance. Therefore, if the findings of this research prove to be substantive, they will be meaningfully implemented in subsequent phases of rehabilitation programs, thereby potentially enhancing the overall effectiveness of post-stroke care.

1.2 PROJECT APPROACH

OVERALL PROCESS

This research project employs two principal frameworks: the Design Thinking "Double Diamond" Process Model and the Co-Creation design method. The first framework utilizes a flexible, non-linear approach that encompasses four key phases: discovery, definition, development, and delivery, as shown in Figure 4. It is noteworthy that these phases can occur concurrently. The second framework, Co-Creation, allows for the active involvement of study participants in the design process, thereby facilitating the acquisition of direct insights and feedback from them. Following the outcomes generated through Co-Creation, I conducted qualitative analysis, ideation, and ultimately, the final design and evaluation of the project.

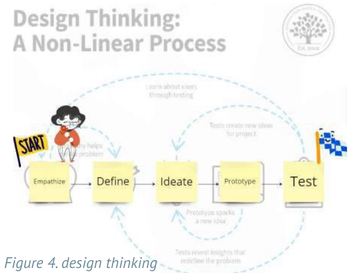


Figure 4. design thinking

DESIGN THINKING

The Design Thinking "Double Diamond" Process Model visually represents the design thinking approach, as shown in Figure 4, emphasising the iterative and user-centric nature of creative problem-solving. Introduced by the British Design Council in 2005, the model outlines four distinct phases in the design process: Discover, Define, Develop, and Deliver. These phases are grouped into two diamonds, representing diverging and converging.

The first diamond focuses on understanding the problem. It begins with the Discover phase, where designers gather insights, empathise with users, and explore the problem space. This phase encourages broad thinking and collecting various ideas and information. The process then narrows down in the Define phase, synthesising insights and formulating a clear problem statement.

The second diamond is about generating and refining solutions. In the Develop phase, designers brainstorm, prototype, and test various potential solutions, embracing many possibilities. Finally, the best solution is refined, finalised, and implemented in the Deliver phase.

The "Double Diamond" model underscores the importance of expansive thinking and focused refinement in the design process, ensuring that designers address the right problem and create compelling, user-centred solutions.

FIELD RESEARCH: OBSERVATION

In order to better understand the experiences of the participants, I conducted a literature review and spent a day shadowing an occupational therapist at Rijndam Rehabilitation Center. This experience provided me with valuable insights into the current state of rehabilitation practices. It also allowed me to observe the general context within the clinic, including factors such as tight schedules, varying levels of impairment, different phases of rehabilitation, and emotional behaviors among patients. This immersive experience was instrumental in deepening my understanding of the complexities involved in post-stroke rehabilitation.

FIELD RESEARCH: INTERVIEW WITH CO-CREATION

Co-creation is a teamwork-based method in research and design where everyone, especially the final users, joins in the design process. This makes sure the final product fits what users want and need. In co-creation, everyone helps identify the problem, come up with ideas, and even try out potential solutions. This approach is great for designs focused on the user because it uses the unique knowledge of each person involved, making the design better and more likely to succeed.

When putting co-creation into action, there are often group sessions, interviews, and repeated tests where the design team and stakeholders collaborate closely. They use tools like journey maps, character sketches, and quick prototype building to help the process. The method is repeated and can change based on immediate responses. Since everyone feels they're a part of the creation, the final design is of higher quality and users are more connected and happy with it.

During this project, I employed a co-creation methodology during the interview sessions. This involved collaboratively constructing an idealised rehabilitation scenario with the participants. This co-creative exercise aimed to ascertain the factors that most effectively galvanise their motivation for rehabilitation and unearth potential design innovation avenues.

QUALITATIVE ANALYSIS

This study is situated within the qualitative research paradigm, implying a limited sample size and a reliance on interview-generated data. The data types encompass various metrics, including participants' self-perceived patient identity, motivation levels for rehabilitation in clinical settings and at home, contextual factors influencing motivation, and real-time emotional expressions.

Given the qualitative nature of the data, thematic analysis serves as the primary analytical method employed in this project. This approach is geared towards categorising diverse factors into thematic clusters, identifying emergent patterns within these clusters, and deriving insights that inform future research directions and intervention design.

IDEATION WITH BRAINSTORMING

Drawing from the findings of the qualitative analysis, I identified potential design opportunities and established specific design requirements. Armed with this information, I conducted a brainstorming session to generate a range of ideas. Subsequently, I selected three concepts that most closely aligned with the established requirements. To determine the final concept for further development, I engaged in an evaluation process with fellow designers. This involved scoring each concept on various criteria and calculating an overall grade for each. The concept with the highest overall grade was then chosen for further design development and prototyping.

PROTOTYPE

Given the need for a testable prototype to facilitate evaluation with participants, and considering the time constraints of the project, I opted for the creation of a low-fidelity prototype. This approach allowed for quicker development while still providing a functional model for testing. To ensure the prototype's relevance and usability for the participants, I underwent several iterative rounds of refinement. This iterative process was crucial in confirming that the prototype effectively addressed the needs and expectations of the study participants.

EVALUATION

To gather feedback on the final concept within a real-world setting and to address the research objectives and questions of this project, I conducted a brief evaluation session at Rijndam Rehabilitation Center. Each participant was given 5 minutes to interact with the low-fidelity prototype. The feedback collected during these sessions was instrumental in shaping the final conclusions and discussions of the project. This evaluation process allowed me to validate the prototype's effectiveness and relevance, thereby fulfilling the research goals set forth at the outset of the study.

1.3 REPORT OVERVIEW

The ***initial*** chapter serves as an ***introduction to the project's overarching theme.*** It delineates the background information pertinent to the subject matter, articulates the primary challenges and research questions, and outlines both the scope and potential opportunities inherent in the study.

The ***second*** chapter is devoted to a comprehensive review of extant literature concerning identity and motivation in the context of post-stroke rehabilitation. This chapter also synthesises insights from caregivers to identify potential factors influencing these variables.

The ***third*** chapter, which constitutes the crux of this project, details the field research conducted. It elaborates on the research methodology, interview protocols, and data analysis techniques and concludes with key insights that inform the design brief.

The ***fourth*** chapter presents the design brief, encapsulating the design goals, vision, and opportunities, all of which are predicated on the outcomes of the interviews

Chapter ***five*** delves into the ideation process, guided by the design brief and culminates in the finalisation of the design direction.

The ***sixth*** chapter encompasses the evaluative process, involving participant feedback and peer review, to assess the efficacy and relevance of the final design concept.

The ***concluding*** chapters offer a summative analysis and discussion of the project, drawing conclusions and suggesting avenues for future research.

02 Identities and Motivation during the Rehabilitation

In the following section, I start by explaining important ideas that are central to this study, such as what a stroke is, conditions after a stroke, what motivates people, and how identity plays a role. I also look at what other scholars have already written on these topics. Then, I talk about two key theories in psychology and give a short summary of each. Using these theories, specifically Self-Determination Theory (SDT) and Identity-Based Motivation (IBM), I build the theoretical basis for this study.

2.1 MOTIVATION DURING THE POST-STROKE REHABILITATION

POST-STROKE

Stroke

A stroke, also known as a cerebrovascular accident (CVA), is a medical condition that occurs when blood flow to a part of the brain is interrupted, damaging brain cells. Those brain injuries might lead to various effects, such as weakness or paralysis on one side of the body, attention or memory problems, communication and sensory information problems, and so on (the National Stroke Association). According to the Dutch Stroke Foundation (Hartstichting), stroke affects around 41,000 people in the Netherlands annually, which makes stroke one of the most common causes of death and disability in the country.

Long-Term Effects

Stroke can deeply affect a person's daily life and health. Studies show that long-term effects can differ based on age, stroke severity, and treatment. A 2018 SAHLSIS study found that young and middle-aged survivors often struggle with daily tasks like cooking and money management, affecting their independence (Blomgren et al., 2018). A 2002 BMJ study showed that intense limb training can improve daily functions like walking (Kwakkel, Kollen & Wagenaar, 2002). Research in 2017 revealed that stroke can lower both physical and mental health, impacting daily life and social activities (De Wit et al., 2017). A 2006 study found that stroke can limit social participation, leading to isolation (Desrosiers et al., 2006). These long-term effects have strong relationship with the quality of home when the stroke survivors go back home.

Post-Stroke Life at Home

Stroke survivors should return home after several weeks of treatment, and they need transition care during this period, which refers to the coordinated and multidisciplinary approaches to the care of stroke patients during the transition from hospital to home or another care setting (Clarke & Forster, 2015). The long-term effects mentioned before directly lead to barriers when they return home, try to return to their everyday life, and regain their capabilities in various aspects, which need enough motivation to do the rehabilitation activities. Those barriers refer to the shock of a stroke interrupting a normal day, the transition to an unfamiliar home, uncertainty, understanding a new sense of self, and adjusting to a new sense of self (Connolly & Mahoney, 2018). In this case, exploring the possible interventions is imperative to support them in dealing with those barriers.

Post-Stroke Rehabilitation

Post-stroke rehabilitation activity is the process of healing and getting better that people go through after they leave the hospital. This is a key part of life for stroke survivors, helping them get their skills back and fit into everyday life again. The process includes different kinds of treatments and exercises to help people regain lost abilities and improve their overall well-being. Usually, a team of healthcare experts like physiotherapists and speech therapists are involved in guiding these activities.

The COM-B model identifies three primary factors that influence behavior: capability, motivation, and opportunity (Barker, Atkins, & de Lusingnan, 2016). As illustrated in Figure 5, this model, introduced by Susan Michie, Maartje M. van Stralen, and Robert West in 2011, stands for "Capability," "Opportunity," "Motivation," leading to "Behavior." While not originally designed for rehabilitation contexts, the model can be applied in such scenarios. It suggests that by enhancing motivation, stroke survivors can be more inclined to participate in rehabilitation, even when faced with physical or mental challenges during their recovery.

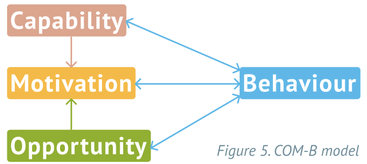


Figure 5. COM-B model

MOTIVATION

General Definition

The term "motivation" is broadly defined as the psychological forces or processes that initiate, guide, and maintain goal-oriented behaviors. It involves factors that influence the direction, intensity, and persistence of an individual's actions. Motivation can be intrinsic, coming from within the individual, or extrinsic, arising from external factors such as rewards or social pressures.

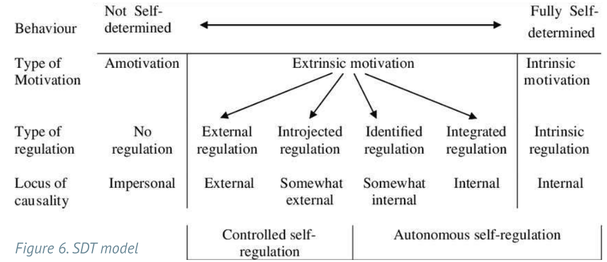


Figure 6. SDT model

Motivation in the Self-Determination Theory

According to Deci and Ryan's Self-Determination Theory (SDT), as shown in Figure 6, motivation is categorised into autonomous motivation and controlled motivation in the psychology domain. Autonomous motivation arises from genuine interest or personal value, while controlled motivation is influenced by external factors like rewards or punishments (Deci & Ryan, 2000).

Definition of the SDT

SDT posits that individuals have innate psychological needs for autonomy, competence, and relatedness, essential for fostering optimal development and well-being (Deci & Ryan, 1985). The theory has been applied in various contexts, including education, healthcare, and technology acceptance.

External Factors and Extrinsic Motivation

The Self-Determination Theory (SDT) differentiates between intrinsic motivation (doing something because it's enjoyable) and extrinsic motivation (doing something for a specific outcome, like rewards or social expectations) (Deci & Ryan, 1985). While intrinsic motivation is driven by personal satisfaction, extrinsic motivation is influenced by both external and internal factors. Recognizing these motivational factors is crucial in this research to boost engagement in post-stroke rehabilitation activities.

IMPACT FACTORS OF MOTIVATION DURING THE POST-STROKE REHABILITATION

The impact factors of motivation in post-stroke rehabilitation have been explored in various studies, emphasising the importance of intrinsic and extrinsic motivation with factors in different aspects. Research has shown that leveraging self-efficacy and motivation can optimise post-stroke recovery by understanding the neurological underpinnings (Gangwani, Cain, Collins, & Cassidy, 2022). Motivation strategies such as feedback, counselling, and information prevision have enhanced patient adherence and produced better outcomes (Oyake et al., 2020). A qualitative study has further explored the extrinsic and intrinsic factors motivating patients' daily rehabilitation, pointing out that extrinsic motivation is more prevalent than intrinsic motivation in rehabilitation settings, highlighting the need for a detailed understanding of behavioural changes, and identifying the factors into personal factors and social relationship factors (Yoshida et al., 2021). Another study observed a shift from external to internal motivation during rehabilitation, indicating motivation's dynamic nature in stroke recovery (Rapolienė et al., 2018). Besides, there is a critical study developing and validating the "Motivation in stroke patients for rehabilitation scale" (MORE scale) to assess stroke patients' motivation for rehabilitation, which rates the subjective feelings of motivation, and which demonstrated high reliability and significant correlations with other relevant scales, making it a valuable tool for evaluating the motivation of doing rehabilitation in the context (Yoshida et al., 2022).

Meanwhile, there are scattered data on how interactions and social integration can shape an individual's sense of self, which refers to the concept of "Identity" in the following chapter, or how psychosocial concepts, such as social support, autonomy, and hope, may affect motivation as patients progress through rehabilitation (Hole et al., 2014), which triggered my interests in digging out the relationship between the identity and impact factors towards the motivation in post-stroke rehabilitation.

CURRENT SOLUTIONS

Motivation is pivotal in post-stroke rehabilitation, and various strategies have been explored to enhance it. Social support and health education are significant factors influencing depression scores, which can impact rehabilitation motivation (Lin et al., 2019). Patient-led therapy, where patients engage in therapy outside supervised sessions, has shown promise in increasing therapy duration without additional staff demands, potentially boosting motivation (Horne et al., 2015). Technological advancements, including wearable robots and virtual reality-based exergames, offer innovative solutions to enhance motivation and engagement in rehabilitation exercises (Huang et al., 2021; Trombetta et al., 2017). Psychosocial factors, including hope, social support, and autonomy, have been highlighted as crucial in shaping patients' motivation for rehabilitation (Cheong et al., 2021). Furthermore, leveraging self-efficacy factors can optimise stroke recovery and enhance motivation for rehabilitation (Gangwani et al., 2022). Studies in adapted dance and rehabilitation psychology highlight that addressing emotional needs and offering social support can enhance stroke care. These interventions help tackle motivation challenges in post-stroke rehabilitation and decrease the emergence of negative emotions (Beaudry et al., 2020; Perna & Harik, 2020). The findings suggest that increasing both social and emotional support can encourage stroke survivors to recover and reintegrate into their daily lives.

RESEARCH OPPORTUNITIES

As previously discussed, I hypothesize that aiding the process of forming a new sense of self could boost motivation in post-stroke rehabilitation. While there are scattered pieces of evidence supporting this idea, it hasn't been fully explored. Therefore, I see identity-related external factors as an intriguing research and design opportunity worth investigating.

2.2 IDENTITIES DURING THE REHABILITATION

IDENTITY

The concept of "identity" has been rigorously examined in multiple fields, from the study of the mind to the science of cells and well-being. Fitzgerald (2020) delves into the realm of work-related identity, highlighting the need for a clear definition to aid academic research. Ortiz, Carlén, and Meletis (2021) shed light on how new discoveries in cell science have led to a new way of thinking about what makes a cell or tissue unique, marking the rise of spatial transcriptomics as a game-changing tool in brain science. Fausto-Sterling (2019) explores the physical aspects of identities like gender and sexual preference, providing basic definitions and pointing out how they are linked. Cass (1983-1984) argues for a more clear idea of gay identity in the field of psychology. Notley et al. (2023) offer a definition of 'identity' in the study of addiction, focusing on how people see themselves in their minds. Together, these studies show that the meaning of "identity" can change depending on the situation and is influenced by a complex mix of mental, biological, and social factors. In this project, I use the term "identity" to mean how people see themselves, described as "who I am." Also, because identity is shaped by many things, I are zeroing in on a specific type of identity related to life, for example the life after a stroke, which I call Context-Related Identity.

CONTEXT-RELATED IDENTITY

The idea of "context-related identity" has attracted academic interest in various disciplines, especially in the fields of computer science and psychology. In the area of data security, the "compound identity" model combines personal user information with situational data to enhance safety measures (Choudhary, 2006). This forward-thinking approach is flexible, adjusting to real-time conditions and showing potential for use in rule-based decision systems. In psychology, the shift from real-world to online identities brings up several ethical questions. These ethical issues are especially important in areas like business and governance, where managing identities is a key task (Rannenberg et al., 2009). Together, these studies show that identity is complex and changes based on the situation, pointing out the need for careful thinking in both tech and mental health studies. In this project, the term "context-related identity" refers to how people see themselves during the time they are getting medical care in a clinic or at home. In this setting, the most relevant identity is that of being a patient, but other roles like being a parent, teacher, or hobbyist are also considered and can be called non-patient identities.

PATIENT IDENTITY & NON-PATIENT IDENTITY

In this study, I specifically look at how identities show up in two settings: while getting medical care in a clinic and during at-home recovery. Because identity is a complex idea with many layers, I use a simple way to talk about it for this study. I divide identities into two main groups: times when people see themselves as "patients" and times when they don't. I call these two groups "patient identity" and "non-patient identity." This two-group way of looking at identity makes it easier to study how people see themselves in the special situations of getting medical care in a clinic or recovering at home.

2.3 THE THEORY FRAMEWORK: THE RELATIONSHIP BETWEEN IDENTITY AND MOTIVATION

IDENTITY-BASED MOTIVATION

Identity-Based Motivation (IBM) is a psychological framework that posits that individuals are motivated to act in ways congruent with their self-concepts and identities (Oyserman, 2015). In the educational setting, IBM has been shown to improve student outcomes by aligning school activities with students' future adult identities (Oyserman et al., 2021).

In the medical domain, although direct applications of IBM are limited, the principles can be extrapolated for patient engagement and adherence to treatment plans. For instance, aligning medical interventions with a patient's identity and life goals could potentially improve adherence and outcomes (Major, Dovidio, & Link, 2018). However, more research is needed to establish the efficacy of IBM in medical settings.

THE ASSUMPTION OF POSSIBLE COMBINATIONS BETWEEN SDT AND IBM

Theoretical Framework: SDT and IBM Models in Context

Self-Determination Theory (SDT) posits that external factors influence both our inner drive (Intrinsic Motivation) and motivation from outside rewards (Extrinsic Motivation). These motivations can dictate our actions or behavior, as represented by the green lines in Figure 7. Conversely, the Identity-Based Motivation (IBM) model asserts that people evaluate external factors to determine if a situation aligns with their self-perception ("It's for me" or "It's not for me"). This perception then influences their behavior, as depicted by the red lines in Figure 7.

While both models trace behavior changes back to external factors, their explanatory mechanisms differ. SDT attributes behavior changes to various types of motivation and their intrinsic value, whereas IBM emphasizes the role of identity judgments. Since both models start with external influences and culminate in behavior changes, it's hypothesized that their inner workings might be interconnected.

Assumed Framework and Research Focus

In our study, I hypothesize that individuals assess if situations or behaviors align with their self-perception based on external factors. This assessment influences their motivation to alter these situations or behaviors, subsequently affecting their actions, as illustrated in Figure 7. While the significance of external factors is well-established, this research seeks to explore the interplay between identity and motivation changes, represented by the dashed lines in Figure 7.

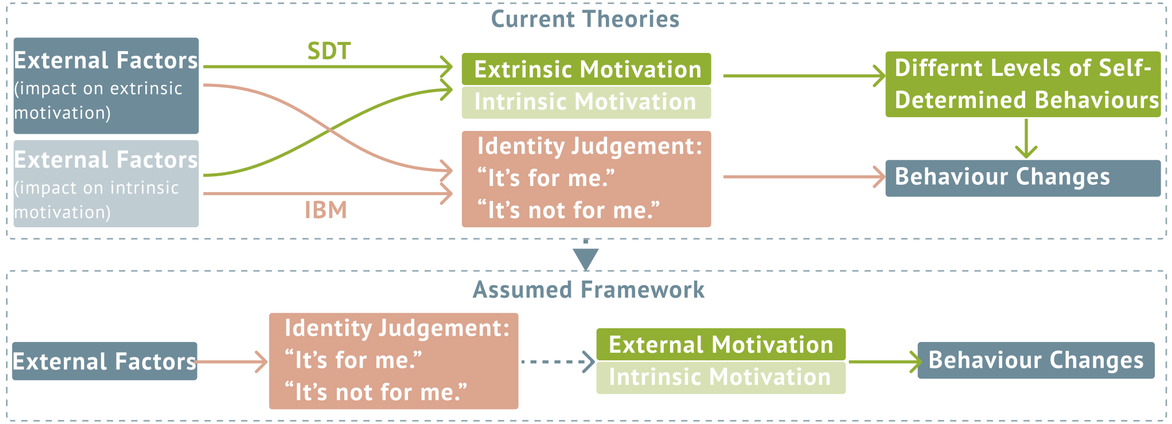


Figure 7. The Assumption of Possible Combinations Between SDT and IBM

Patient Factors and Non-Patient Factors

In looking at the external factors that might relate to seeing oneself as a patient or not, I consider these identities as key features of these factors. I label the factors that could make someone feel like a patient as "patient factors," and the factors that could make someone feel not like a patient as "non-patient factors." With this clear way of talking about it, I can put different factors on a chart with two lines: one for patient and non-patient factors, and another for factors in the clinic and at home.

2.4 RESEARCH DIRECTIONS

Simply put, my next step is to investigate factors that could influence motivation in post-stroke rehabilitation, focusing on the potential interplay between self-determination and identity.

THE POTENTIAL FACTORS RELATED TO IDENTITIES AND MOTIVATION

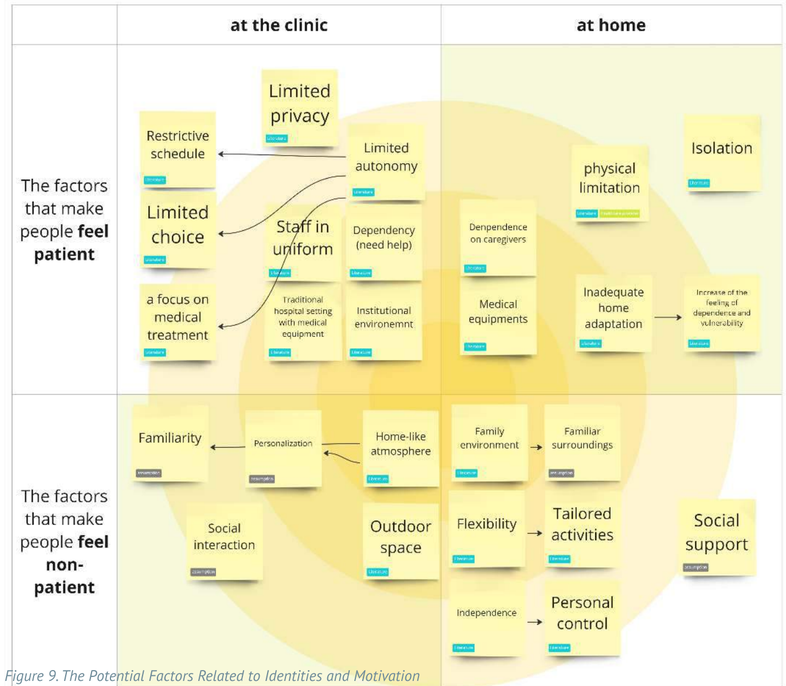


Figure 9. The Potential Factors Related to Identities and Motivation

Preliminary Framework for Research Design

To start understanding what factors might be important, we gathered information from existing studies and talked to healthcare providers. As shown as Figure 9, the chart on the left sorts these factors into four groups using two lines: one for patient and non-patient identity, and another for clinic and home settings. Most of the current research and earlier studies focus on the role of the place itself, including things like medical tools and the feel of both the clinic and home. So, we have four groups of factors: factors that make you feel like a patient in the clinic, factors that make you feel like a patient at home, factors that make you feel not like a patient in the clinic, and factors that make you feel not like a patient at home.

It's important to note that how these factors are grouped is mainly based on my own thinking, which will need to be checked in more detail through future research, like watching what happens and talking to people.

The patient factors in the clinic

Within the possible impact factors towards the motivation in post-stroke rehabilitation in the clinic, there are the main factors that I regard as patient factors:

1.Institutional Environment: Traditional hospital settings with medical equipment, sterile environments, and staff in uniforms can contribute to the feeling of being a patient (Kirkevold, 2010).

2.Dependence: Individuals may feel like patients if they require assistance with activities of daily living or mobility, which can lead to feelings of dependency on care providers (Baldwin, 2016).

3.Limited autonomy and privacy: Restrictive schedules, limited choices, and a focus on medical treatment can make individuals feel like patients, as their autonomy may be reduced (Horne et al., 2014). A lack of privacy, such as shared rooms or a lack of personal space, can also make patients feel like they are in a hospital or clinical environment (D'Cruz et al., 2016).

The non patient factors in the clinic

Within the possible impact factors towards the motivation in post-stroke rehabilitation in the clinic, there are the main factors that I regard as non-patient factors:

1.Home-like atmosphere and familiarity: Personalizing the environment with familiar objects or photos can create a sense of belonging and reduce feelings of being a patient (Gzil et al., 2018).

2.Outdoor space: Providing access to gardens or outdoor spaces can help patients feel more relaxed and less confined. Research shows that exposure to nature can improve mental well-being and foster a sense of normalcy (Ulrich et al., 1991).

3.Social interaction: Encouraging social interaction and engagement in group activities can promote feelings of belonging and make people feel less like patients (Morris et al., 2013).

The patient factors at home

Within the possible impact factors towards the motivation in post-stroke rehabilitation at home, there are the main factors that I regard as patient factors:

1.Medical equipments: The existence of the medical equipments can remind them about their patient ideneity, said by a healthcare provider at Rijndam.

2.Physical limitation: The limited physical capabilities might cause some inconvenience moment when they want to do something, which might lead to the feeling of being a patient, assumed by me.

3.Denpendence on caregivers: When the post-stroke survivors have to reply on the caregivers, they might feel they are disabled at some moments, which lead to the patient identity, said by a healthcare provider at Rijndam.

4.Inadequate home adaptation: The lack of home adaptation towards post-stroke situation might lead to the inconvenience of post-stroke survivors' daily life, which might let feel that they are still a patient at the disabled moment, assumed by me.

The non patient factors at home

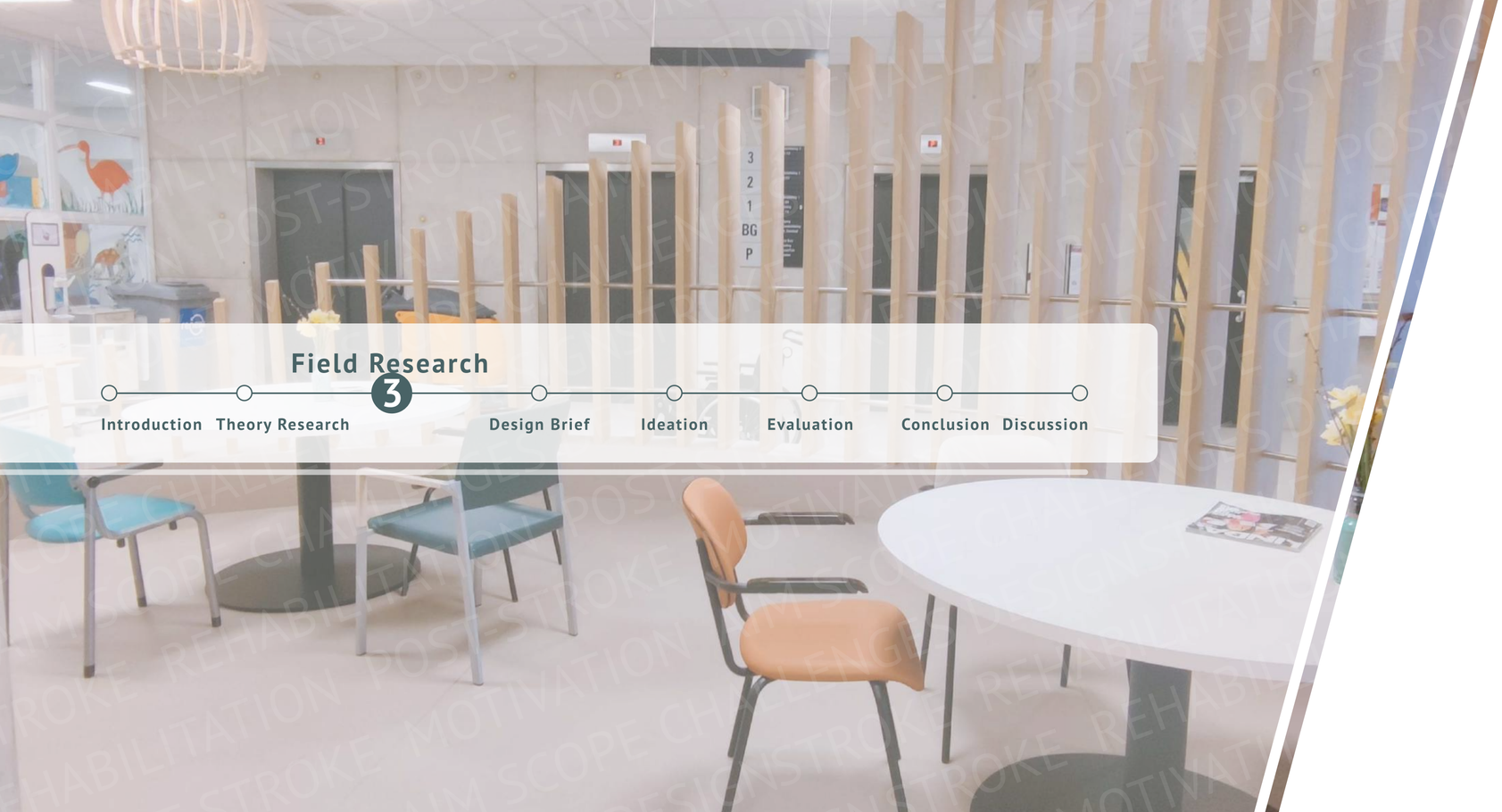
Within the possible impact factors towards the motivation in post-stroke rehabilitation at home, there are the main factors that I regard as non-patient factors:

1.Family environment: According to a conversation with a post-stroke survivor at Rijndam, the familiar family environment can let them feel less like a patient.

2.Flexibility: Comparing with the restrictive schedule in the clinic, post-stroke survivors have more flexibility at home, which lead them feel less like a patient.

Research Directions

In general, these various factors in different aspects can be obviously clustered with another attribute, the physical environmental factors and social activity factors. Consequently, the forthcoming research will explore factors related to identity along two primary dimensions: physical environmental factors (e.g. traditional hospital setting) and social activity factors (e.g. social interactions). In subsequent research, this categorisation table will be augmented with primary data obtained through interviews and analysis, serving as a repository for key insights and potential design opportunities.



03 Context: Field Research

This chapter gives a full look at the methods used for research, how data was collected, and how it was analyzed, leading to important findings and possible directions for design.

The first part goes into the research done by observing, including the methods used and what was found. These findings help plan for the interviews that come next. Meanwhile, I bring together possible factors that might affect the study, based on both academic writings and talks with healthcare experts. This helps to provide useful information that will shape the design of future interviews, setting the stage for what comes next in this research.

The second part talks about the research done through interviews. It covers how the interviews were done, what materials were used, how the data was looked at, and what was found out.

The third part wraps up the field research, bringing together what was learned from both observing and interviewing. It also suggests a possible theory based on all this information.

To sum up, the chapter points out the choice to focus on daily activities that haven't changed after a stroke. This focus comes from the data and findings, and it shows a good way to help people stay motivated in their recovery after a stroke.

3.1 OBSERVATION

MAIN GOAL OF THE OBSERVATION

Here are the main goals of the interview session:

- Understand the Setting: I aim to immerse myself in the environment to grasp the current state of clinic-based rehabilitation and the conditions of potential participants.
- Spot External Factors: I plan to observe the external factors that might be present in the clinic setting.
- Context Mapping: I intend to outline the surrounding factors that affect the patient in the clinic.
- Plan Interview Strategy: I hope to figure out the best way to conduct interviews in the actual clinic setting.
- Gather Professional Insights: I aim to get opinions and ideas from the healthcare team about treatments and approaches in post-stroke rehabilitation.

OVERALL APPROACH OF THE OBSERVATION

Design

The primary method for this observation session involves shadowing an occupational therapist throughout his daily activities. I accompany him as he delivers rehabilitation treatments, participates in group meetings, and interacts with other healthcare providers. During these times, I stand nearby, listen to conversations, observe all activities, and ask the occupational therapist questions about his work whenever they arise. This approach has been discussed with Rijndam and has received approval from both the research team and Rijndam.

Ethics

In light of ethical concerns regarding identifiable information, I refrained from capturing any images or video recordings that include people. However, I have been granted permission to photograph clinic equipment as long as no individuals are present in the images.

Participants

The people taking part in this observation session are chosen randomly, with the exception of the occupational therapist who is guiding me. I don't have the authority to select who I will meet; rather, the participants are determined by the therapist's schedule. Overall, I had the opportunity to observe six different treatment sessions involving six different individuals recovering from strokes, with each session lasting about 25 minutes. Additionally, I had the chance to speak with four different therapists and one psychologist at Rijndam.

Data collection

Through observing the treatment sessions for each participant, I collected data on the average cognitive and speech levels of the target group by examining the equipment setup, talking with therapists, one-day observation at the rehabilitation centre. These factors have been incorporated into the table presented in the next chapter. The data was written down as field notes.

Data analysis

For this analysis, I'm mainly reviewing notes and images to gather insights relevant to the observation session's goals. Using this data, combined with information from literature, I've compiled a table of potential factors that could impact the study. These factors are categorized based on patient/non-patient influences and clinic/home environments.

RESULTS OF THE OBSERVATION

Medical Board

As depicted in Figure 8, each patient is cared for by a multidisciplinary medical team that includes a physical therapist, an occupational therapist, a speech therapist, a doctor, a social worker, and a psychologist. This medical board collaboratively determines the treatment plan for each patient. Given the potential negative impact of the interview process, it's essential to consult with the psychologist to ensure that the questions posed are both appropriate and safe. Additionally, discussions about a possible after-care plan should also be conducted.

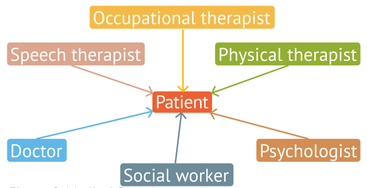


Figure 8. Medical Board

Environmental Setting

The atmosphere at Rijndam is quite welcoming. Despite the presence of numerous medical devices, the warm-colored decor contributes to a sense of calm and tranquility, which could be considered a non-patient factor. The staff all wear professional white uniforms, which could be seen as a patient factor. Additionally, the facility is equipped with various aids like handles, soft edges, and wide doors, which could also be categorized as patient factors. This information is valuable for crafting the questions I will use in the interview sessions.

Rehabilitation Activities: Variation and Limitation

There are various types of rehabilitation activities available, such as practicing going up and down stairs, playing ball games, cooking, engaging in board games, sewing, and more. While these activities are beneficial for patients, replicating them at home may not be as straightforward due to the absence of specialized equipment and facilities. This could potentially affect patients' motivation to engage in rehabilitation activities when they are at home.

Limited Capabilities of the Participants

Patients at Rijndam exhibit varying degrees and types of impairments that could influence the design of the interview. These include limitations in speech, cognitive challenges affecting comprehension, and emotional sensitivities. These factors prompt me to carefully consider both the recruitment criteria for the interview and the formulation of the questions. It's crucial to avoid asking questions that exceed their level of understanding or that could easily trigger negative emotional responses.

Restrictive Schedule of the participants

Patients at Rijndam follow highly structured schedules, with their daily routines broken down into multiple half-hour segments filled with various activities. While this regimented scheduling could be considered a patient factor, it also poses challenges for me in arranging suitable times for interviews. Additionally, due to these tight schedules, I will have to limit the duration of each interview to 30 minutes.

Restrictive Schedule of the healthcare providers

The healthcare providers at Rijndam are extremely busy, which has tempered my enthusiasm for involving them in the final concept of the study. I'm concerned that adding extra tasks could be overwhelming for them. Therefore, I aim to develop a concept that won't require significant additional effort on their part, ensuring that any changes introduced will not become a burden for them.

3.2 INTERVIEW

MAIN GOAL OF THE INTERVIEW

Here are the main goals of the field research session:

- Identify the related factors that can motivate post-stroke patients to do the rehabilitation
- Identify the relationship between the patient/non-patient identity, identity and motivation
- Find out the design opportunities

OVERALL APPROACH OF THE INTERVIEW

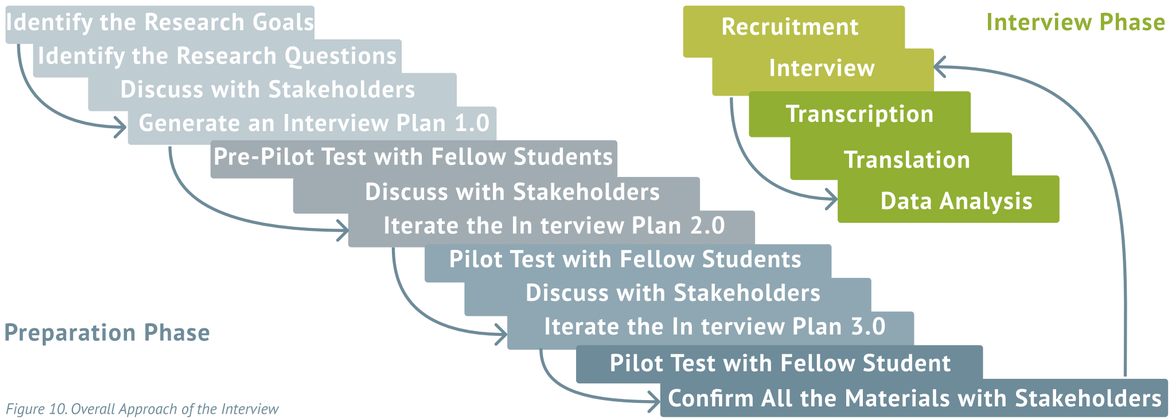


Figure 10. Overall Approach of the Interview

Study Design

The interview methodology was collaboratively developed by the research team and Rijndam. After multiple cycles of design, pilot testing, iteration, and discussion, the final interview format received approval from both parties. To gain a more detailed understanding of the perspectives of both patients and healthcare providers, I undertook a shadowing observation experience with an occupational therapist at Rijndam, as outlined in the previous section. I also had conversations with therapists and psychologists at the center to fine-tune the interview guidelines.

Given the cognitive constraints and tight schedules of the participating patients, the total time allotted for each interview is limited to 30 minutes. The interview script has undergone seven revisions, and the final version, Interview Script-ver 7.0, can be found in Appendix 1. The flow of the interview session is illustrated in Figure 11.

	Recruitment	Informed Consent	Interview	Co-Creation
Duration	2 mins	5 mins	13 mins	10 mins
Question	Would you like to participate in the research?	Do you agree with the Informed Consent?	How is it going with your current motivation and patient/non-patient identity in the clinic and at home? What are the factors that let you feel like a patient/non-patient in the clinic and at home?	What are the factors in your ideal situation that can motivate you best? How is it going with your motivation and patient/non-patient identity in your ideal situation?
Outcome	Participation	Signed Informed Consent	Current motivation levels, current identity, related factors	Related factors, evaluation of the motivation and identity changes

Figure 11. Interview Flow

Language Barriers and Translation

Considering the possibility that the target group may have cognitive or speech challenges, it was crucial to offer all materials in the participants' native language, which in this case is Dutch. As an international student with limited Dutch skills, I was unable to conduct the interviews in Dutch. To overcome this obstacle, the research team enlisted the help of Suzanne, a Master's student from Erasmus MC, who volunteered to translate the research materials and conduct the interviews in Dutch. Following the interviews, I transcribed the audio recordings into Dutch text. After removing all identifiable information, I translated the transcripts into English for subsequent analysis.

Materials

Given the specific characteristics of the participant group, careful planning was essential to create an inclusive research environment. To account for possible visual impairments, all materials were also made available in audio format, eliminating the need for reading. Cognitive challenges were addressed by making sure all text and spoken content was simple and easy to understand. For those with motor impairments affecting their arms and fingers, co-creation activities were designed so that interviewers and facilitators could carry them out, guided by verbal directions from the participants.

Additionally, to minimize emotional stress that could arise from the interview, we worked closely with psychologists from Rijndam both before and after the interviews. Prior to the interviews, all questions were reviewed to ensure they met ethical standards. After the interviews, any signs of emotional distress observed were reported to the psychologists to arrange suitable after-care for the participants.

RESULTS OF THE INTERVIEW

Recognizing that different phases of rehabilitation could impact identity and motivation—a notion observed at Rijndam and confirmed by healthcare providers—the participants were divided into three groups for the sake of analysis. These groups were categorized based on their current stage in the rehabilitation process at the time of the interviews: an early-stage group (in the first 1/3 of the process) with one participant, a middle-stage group (in the second 1/3 of the process) with two participants, and an end-stage group (in the last 1/3 of the process) with three participants, as shown in Figure 16. The main aim of this analytical section is to investigate the proposed relationship between identity and motivation. Accordingly, a comparative analysis focusing on identity and motivation was carried out within each of these groups.

Figure 16. people in different group

The Early-Stage Group

In the early-stage rehabilitation group, which includes just one participant, a significant pattern emerged: an increase in the participant's self-identification as a patient was accompanied by a rise in motivation levels, as shown in Figure 17. This was especially evident when the participant was asked to envision an ideal rehabilitation setting.

The Middle-Stage Group

The middle-stage rehabilitation group consisted of two participants, each displaying distinct patterns, as shown in Figure 18. The first participant showed no noticeable shifts in either identity or motivation. The second participant's outcomes were somewhat atypical; contrary to what was expected, her motivation levels actually declined when considering an ideal rehabilitation setting.

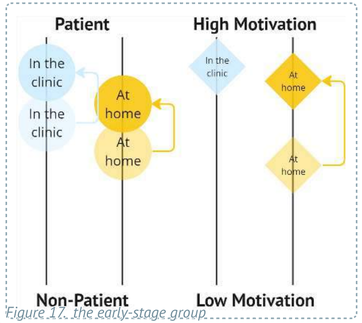


Figure 17. the early-stage group

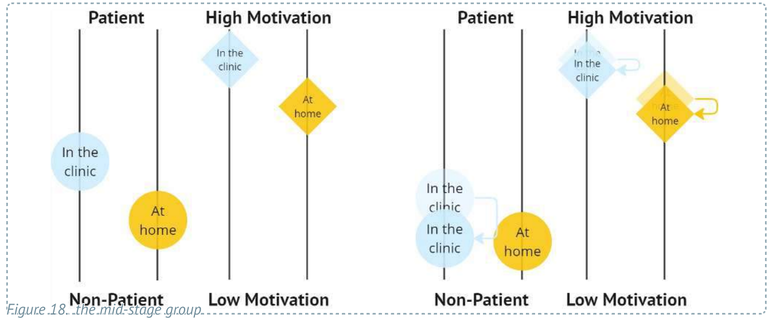


Figure 18. the mid-stage group

The End-Stage Group

The end-stage rehabilitation group included three participants, all of whom were approaching discharge, as shown in Figure 19. The first participant's data echoed the unexpected drop in motivation seen in the second participant from the middle-stage group when contemplating an ideal rehabilitation scenario. The second participant's results were consistent with those of the participant in the early-stage group, showing an increase in motivation alongside a stronger self-identification as a patient, especially in the home environment. The third participant displayed emotional distress during the interview, prompting the arrangement of subsequent psychological after-care in consultation with the attending psychologists.

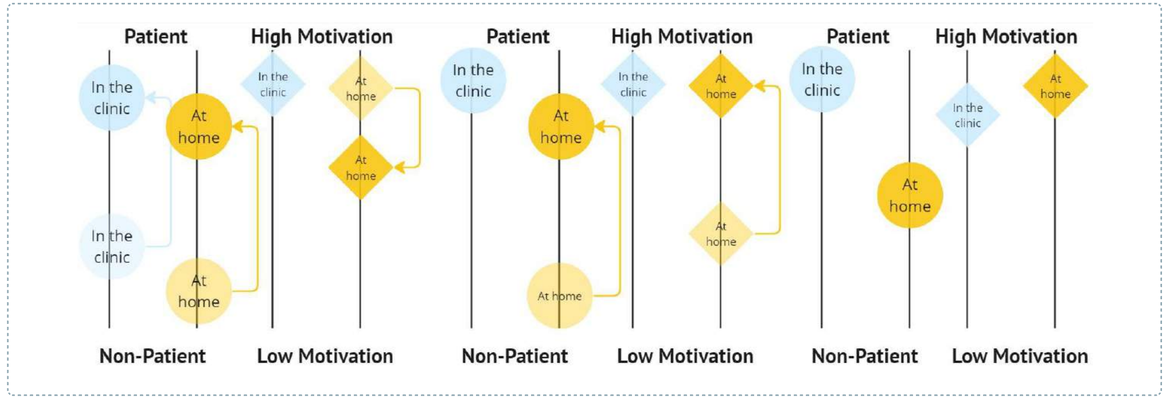


Figure 19. the end-stage group

Thematic Analysis of the Factors

To glean actionable insights and pinpoint design opportunities, a total of 103 cards generated from the co-creation session at the end of the interview, focusing on impact factors, were subjected to detailed analysis, as shown in Figure 21.

In the first phase of the analytical process, each card was systematically labelled to indicate its specific attributes, as shown in Figure 20. During the second phase, the cards were grouped into thematic clusters to identify factors that were mentioned repeatedly, thereby enabling more nuanced subsequent analyses. Comprehensive visual representations of these thematic clusters are available in Appendix 4.

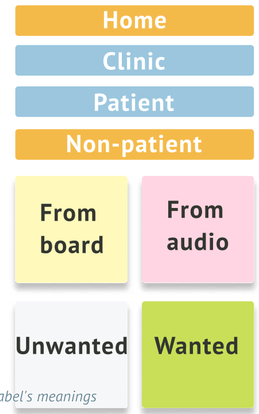
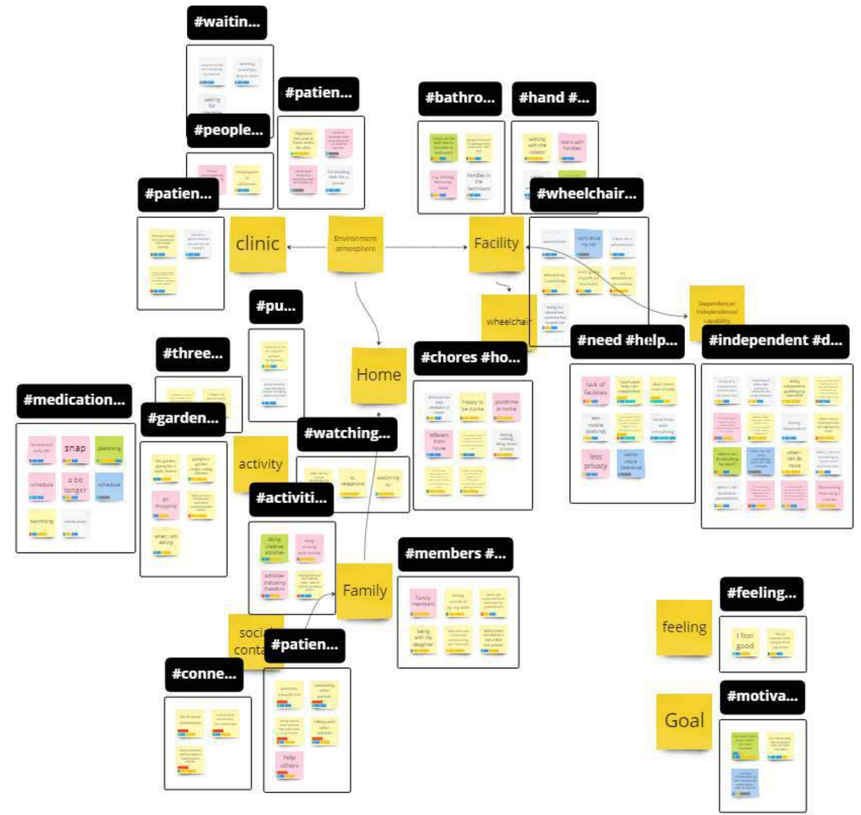


Figure 20. label's meanings

Figure 21. All the cards



Integration with the Former Information

As the final step in the analytical journey, all relevant data were integrated into the table first introduced in Chapter 2, as shown in Figure 22. Detailed information about this table can be found in Appendix 5.

Validation and Novel Insights from Empirical Data

Several assumptions rooted in existing literature were confirmed through new empirical findings. Notably, participants emphasized the importance of social activities as key factors influencing their experience, as outlined in the yellow scope.

Emergent Themes Uncovered in Interviews

New insights that had not been previously documented in existing literature emerged from the interviews. Participants highlighted the concept of (in)dependence as a crucial factor affecting their self-perception as either a patient or non-patient, as indicated in the blue scope. Additionally, changes in daily activities due to post-stroke impairments had a significant impact on their self-identification as patients. Conversely, engagement in activities that were not affected by the stroke boosted their motivation for rehabilitation, as emphasized in the green scope.

Unconfirmed Assumptions from Literature

Contrary to some assumptions derived from previous studies, participants did not mention the importance of a home-like atmosphere, nor did they bring up elements related to personalization or familiarity.

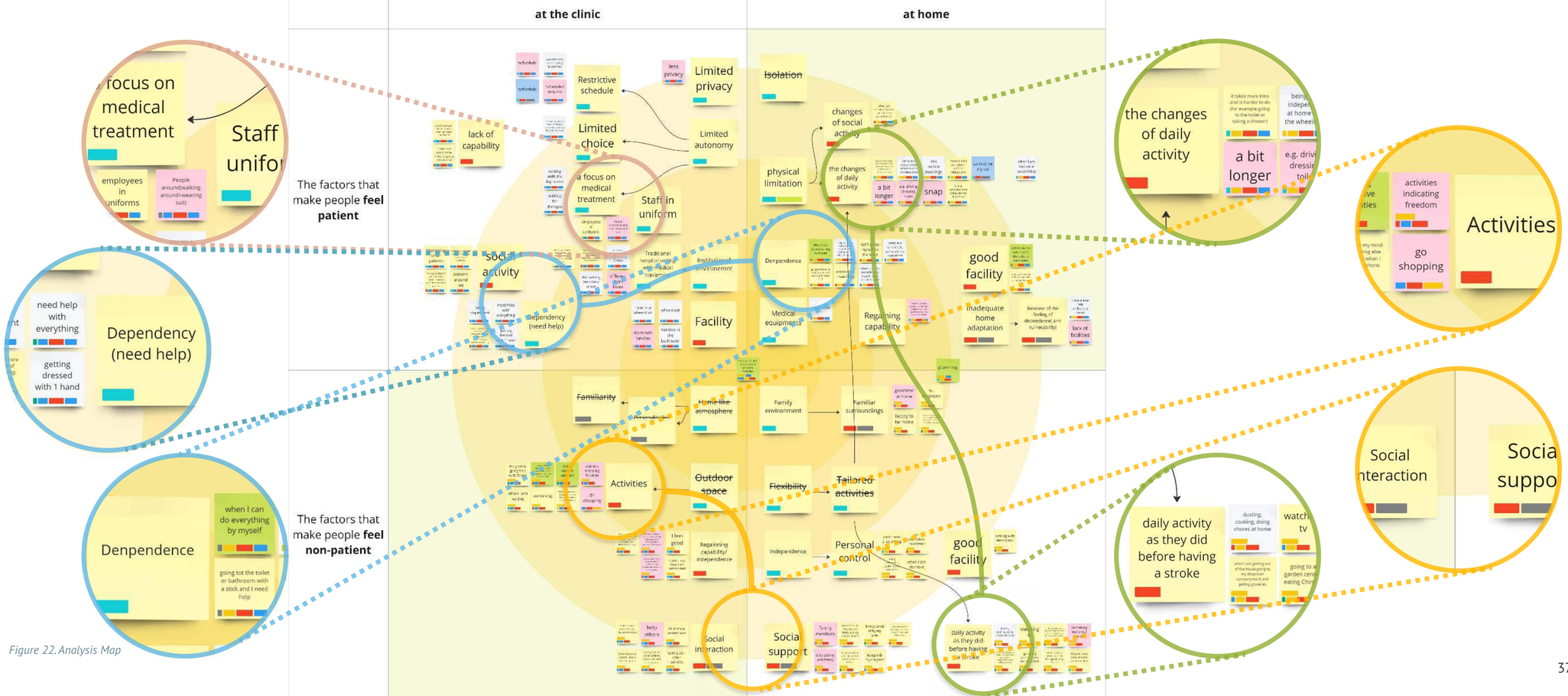


Figure 22. Analysis Map

3.3 MAIN OUTCOMES

THEORY FRAMEWORK: UNCERTAIN RELATIONSHIP BETWEEN IDENTITY AND MOTIVATION

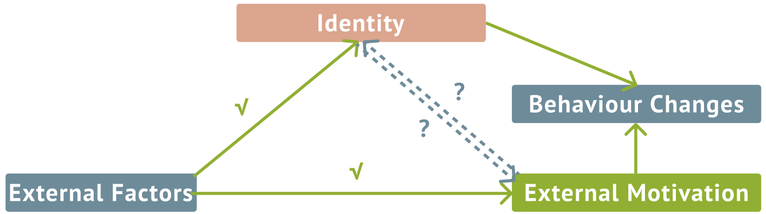


Figure 23. New theory framework

The influence of external factors on identity and motivation was corroborated by the empirical data gathered, as shown in Figure 23. However, the goal of clearly defining the relationship between identity and motivation remains elusive due to the absence of direct evidence. The data presents a complex landscape: while some participants experience a rise in motivation alongside an increase in their patient identity, others show a different trend. Interestingly, all participants expressed a preference for a stronger non-patient identity in both clinical and home settings. Yet, paradoxically, their patient identity seemed to intensify in the end.

One possible explanation for this phenomenon suggests a bidirectional relationship between identity and motivation. Specifically, an uptick in motivation could lead to increased engagement in rehabilitation activities, which in turn could strengthen the individual's patient identity. As a result, it is hypothesized that identity and motivation are interdependent, jointly influencing behavioral outcomes.

INSIGHTS

The empirical data emphasizes the importance of psychosocial factors in boosting motivation for post-stroke rehabilitation. Specifically, an increase in social activities, which signals enhanced social support, appears to be a stronger motivator than changes in the physical environment. Additionally, the data indicates that individuals are motivated by clear signs of their progress, confirming the psychological value of achievement markers. This is further supported by participants' tendency to share and reflect on their achievements, underscoring the role of social validation in motivation.

Furthermore, the data unveils a complex relationship between daily activities, identity, and motivation. Activities that have been modified due to post-stroke impairments seem to amplify the patient identity while simultaneously reducing motivation. This can be attributed to the perception of increased dependence, as tasks once completed independently now require assistance after the stroke. This highlights the intricate relationship between identity, motivation, and the psychosocial context, providing valuable insights for the creation of targeted interventions.

DESIGN DIRECTION

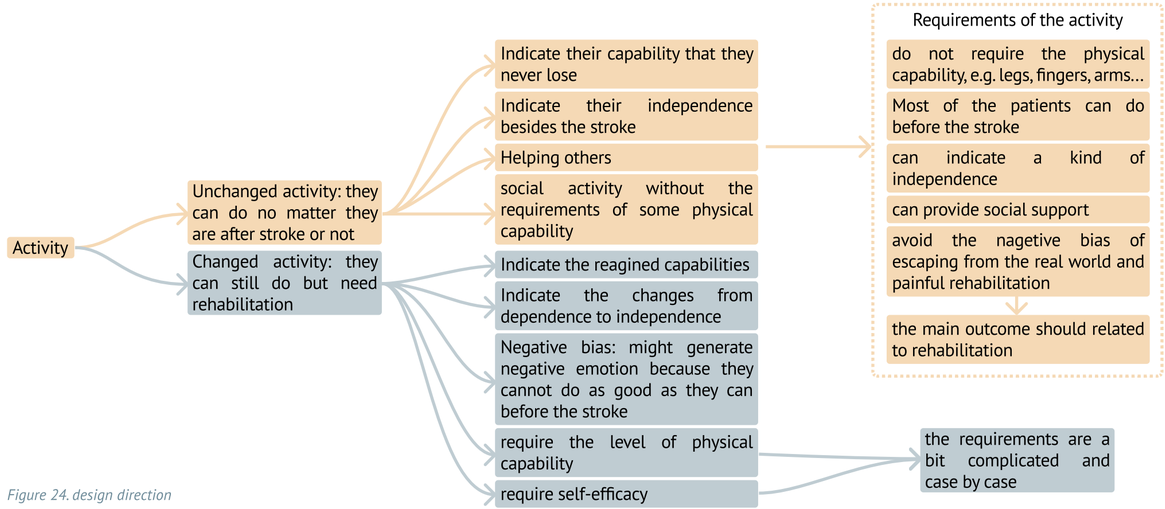


Figure 24. design direction

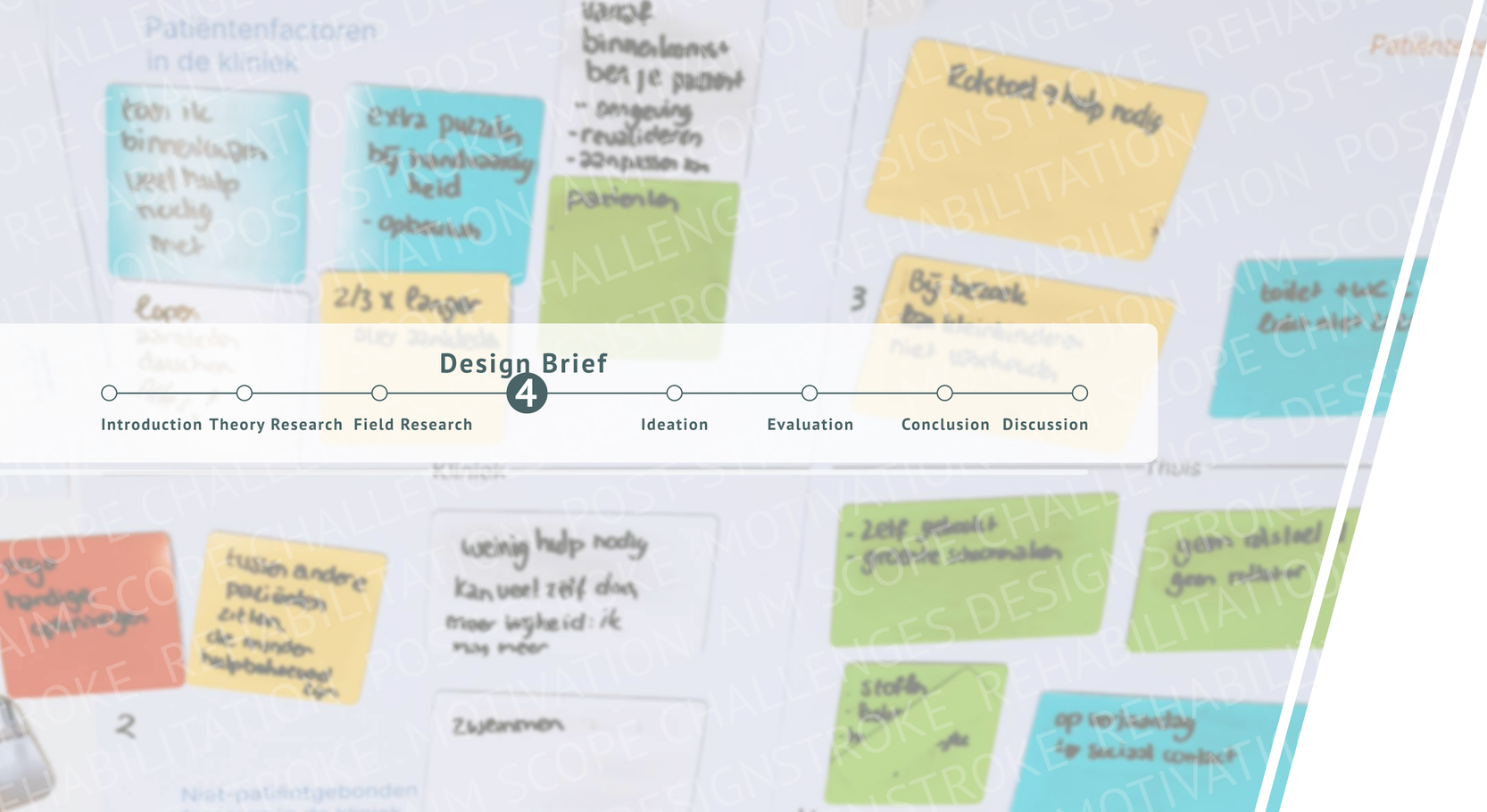
Upon examination, as shown in Figure 24, two potential pathways for intervention became apparent: one focusing on daily activities that have changed post-stroke, and another on activities that have remained unchanged. A comparative assessment of these two directions, as depicted in the accompanying chart, reveals distinct pros and cons. Interventions targeting changed daily activities could provide customized solutions but come with complexities due to their case-specific nature. On the other hand, focusing on unchanged daily activities offers a more universal strategy, potentially benefiting a wider range of patients.

Given these considerations, the decision was made to explore design opportunities centered on unchanged daily activities. This strategic emphasis aims to capitalize on the inherent motivational advantages of participating in familiar activities, thereby offering a more scalable and less complicated avenue for intervention.

3.4 CONCLUSIONS

During the interviews, the first participant showed no noticeable changes in either identity or motivation. This lack of change could be attributed to a negative emotional state stemming from a perceived lack of progress in his rehabilitation journey. In the middle-stage group, the first participant's data reflected an unexpected decrease in motivation, similar to what was observed in the second participant when contemplating an ideal rehabilitation scenario. This could be due to misunderstandings that occurred during the co-creation or evaluation phases of the interview.

The collected data does not establish a clear correlation between identity and motivation, a limitation that could be attributed to the small sample size. However, two key observations emerged from the interviews: first, external factors do have a noticeable impact on shifts in both motivation and identity; and second, these shifts appear to influence subsequent behavioral changes.



04 Design Brief

In this final chapter, I consolidate the key findings and insights from the preceding chapters to formulate a coherent and actionable design goal and vision. These elements serve as the bedrock upon which the identified design opportunity is constructed.

The established design goal is to bolster the motivation of post-stroke patients to partake in rehabilitation exercises at home. The strategy is to instill a sense of accomplishment by guiding them towards "unchanged daily activities," particularly those that engage their auditory and verbal skills within the home setting.

Aligned with this goal, the design vision aspires to develop a socially interactive and emotionally supportive platform. On this platform, patients can share their rehabilitation journeys, thereby serving dual purposes: it acts as an indirect motivator for sustained engagement in rehabilitation exercises and fosters a sense of community and emotional well-being among the patients.

The design opportunity resides in the creation of a robust reward system that incentivizes the act of storytelling. This system should be designed not only to stimulate the sharing of personal experiences but also to indirectly elevate the patients' motivation to engage in their rehabilitation activities.

By cohesively integrating these components—the design goal, vision, and opportunity—this chapter functions as a transitional juncture, paving the way for the practical realization of the design concepts discussed.

4.1 DESIGN GOAL

The main goal of this study is to increase the willingness of people who have had a stroke to do exercises that help them recover. The project plans to do this by setting up a social activity that mostly uses the patients' ability to hear and speak. This aims to give them another role or identity that can also inspire them to engage in their recovery. The activity is planned to take place at home, making it easy and convenient for the people involved.

The reason for focusing on hearing and speaking capabilities is for two main points: first, these abilities are often less affected in people who have had a stroke compared to other physical skills; and second, social activities that involve talking and listening are known to be strong encouragers in the healing process. So, the direction of this design is carefully chosen to use these aspects to make people more willing to do their recovery exercises in a way that is both meaningful and interesting to them.

4.2 DESIGN VISION

FUNCTION

- Support the participants to be able to do/create something besides the rehabilitation activity together/alone via speaking/listening/doing rehabilitation to increase their motivation to do the rehabilitation at home.
- Provide a different identity from being a patient.

TARGET GROUP

- Post-stroke patients who are at the end of the rehabilitation process in the clinic, will be discharged soon, and will do the rehabilitation at home.

CONTEXT OF USE

- At home.

INTEGRATED PARTICIPANTS

- Patients
- Caregivers
- Other stakeholders.

INTERACTION VISION

Raise up a block with the possible help and supervision from others, as shown in Figure 25.

Quality

- build up something: a sense of achievement and reflection of the effort
- possible help and supervision: social support and potential of doing something alone
- a block: something that people can follow step by step

Figure 25.interaction vision

4.3 DESIGN OPPORTUNITY

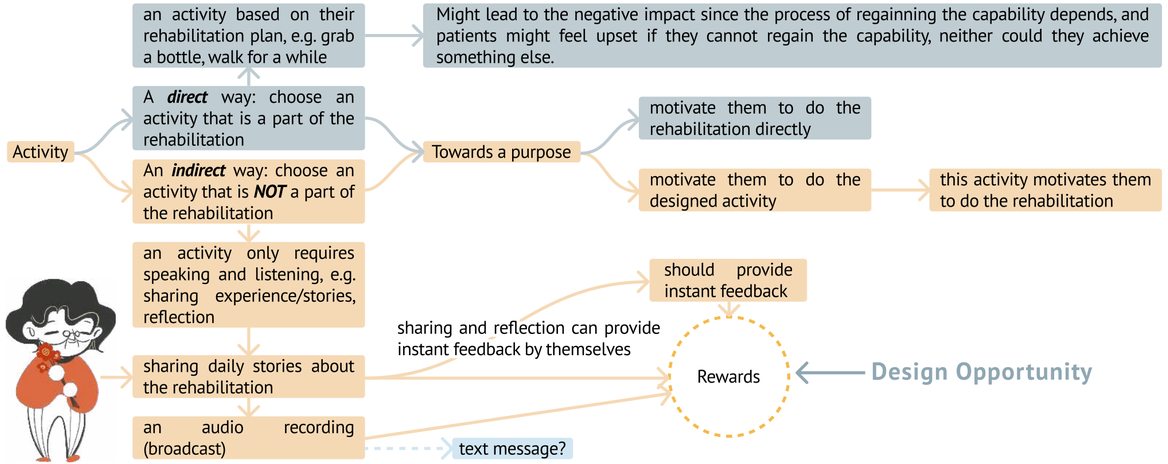
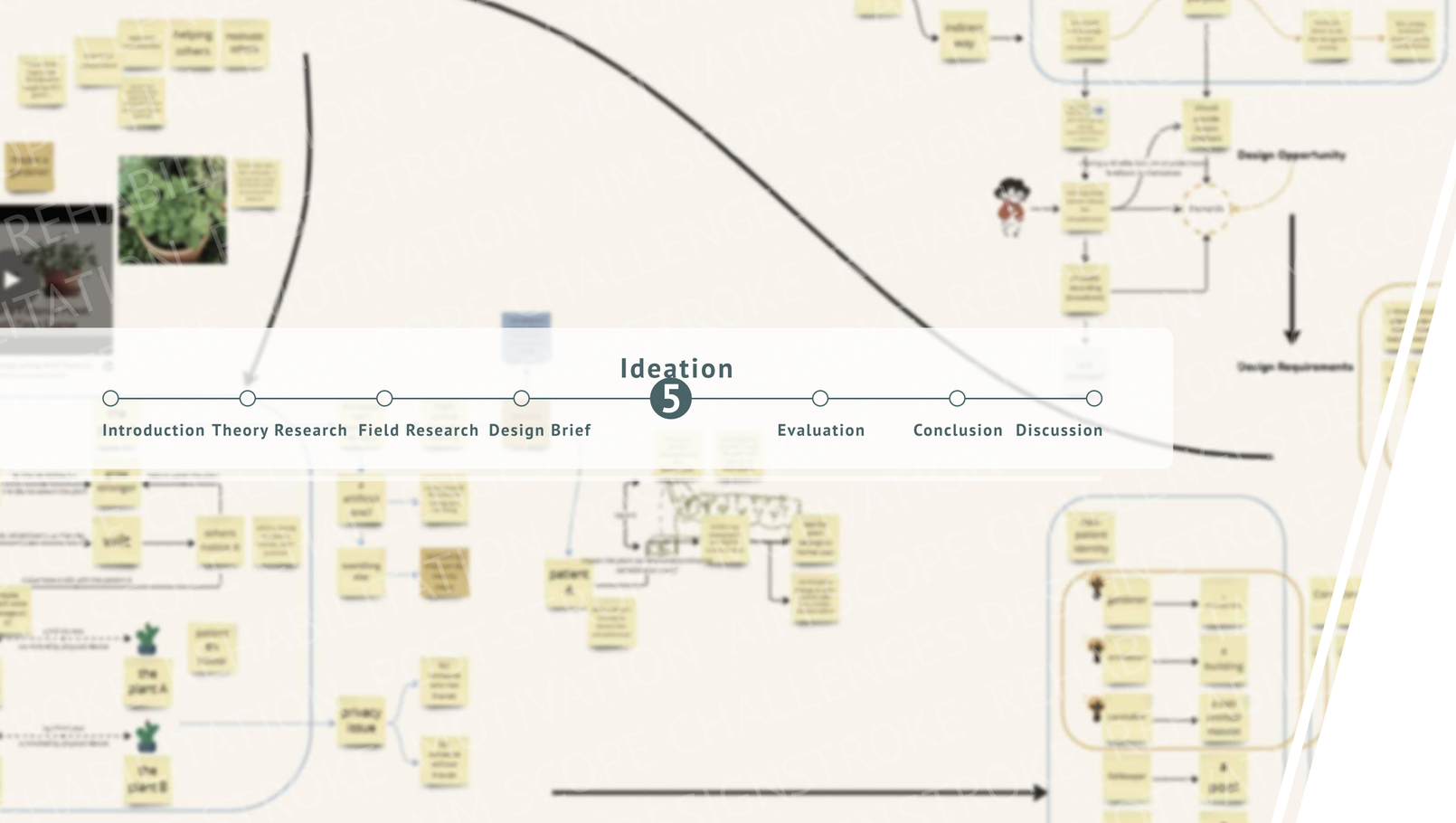


Figure 26. design opportunity

In line with the main goal of the study, two possible ways for choosing an activity were looked at, as shown in the chart before this, as shown in Figure 26. The first way is to pick an activity that is directly linked to the patient's plan for getting better, like holding onto a bottle or walking a short way. But this straight-ahead method could end up making patients less willing to take part, especially if they find it hard to get back abilities they've lost.

The second way is more indirect and focuses on activities that aren't a formal part of the healing plan but can still make patients more willing to do exercises that will help them. Based on what we found, this indirect way looks more promising for the design.

In this setting, sharing personal stories about getting better stands out as a good choice that meets all the needs set out. This activity uses the patients' ability to hear and speak and gives them a chance to interact with others and get emotional support. This makes it a strong encourager for ongoing healing. The chance for design here is in creating a smart reward system that makes this storytelling even more appealing, and in doing so, makes patients more willing to keep up with their exercises.



05 Ideation

The next chapter outlines the steps taken from spotting a chance for design to coming up with the final idea, explaining the repeat steps that helped make design choices.

The chapter starts with a brainstorming session to think of possible design ideas. Using what was learned from earlier research and looking at the data, three promising ideas were created. These ideas aim to meet the many needs of people who have had a stroke, focusing especially on making them more willing to take part in activities that help them get better.

After the brainstorming, a careful process was used to see how good the new ideas were. A scoring system with weights was used to look at the ideas based on set rules. This helped pick out the idea that best fit what the project aims to do and its design needs. Because of this, Idea A was picked to be made better.

The last part of the chapter goes into detail about making Idea A better. This includes improving its parts, making its user interface better, and figuring out how to actually make it. The goal is to make it more effective in encouraging people who have had a stroke to do their healing activities, while also making sure it's doable and easy for users.

5.1 BRAINSTORM

DESIGN REQUIREMENTS

In alignment with the framework delineated in the preceding chapter, the ensuing design concept should embody the following essential qualities:

- It should be able to be raised up step by step.
- It should provide a sense of achievement.
- It should provide social support.
- It should only require minimised capability.
- It should provide instant feedback.
- It should be attractive and engaging.
- It should be able to be done by individuals without help from others.
- It might provide moments for reflection.
- It should provide a different identity instead of being a patient.

BRAINSTORM WITH DIFFERENT IDENTITIES AND THEIR POSSIBILITIES

To come up with early ideas about the topic of "rewards," a brainstorming meeting was held with other design students. This group activity used the design needs set out in the early planning stage as a guide. The meeting led to a list of possible themes for rewards, put in order by how well they fit. From what everyone thought, the best three themes for rewards were picked to be looked at more and made better, as shown in Figure 27.

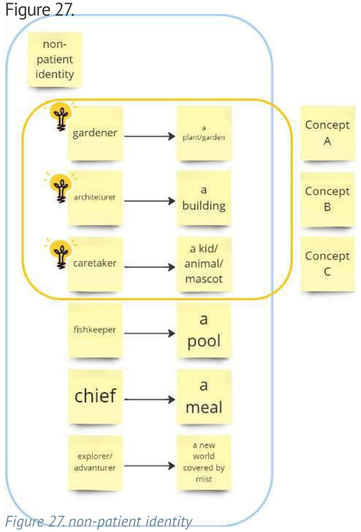


Figure 27. non-patient identity

SELECTED CONCEPTS

In the subsequent phase of the project, three compelling reward themes—being a gardener, being an architect, and being a caretaker—were selected for further development. To facilitate a comprehensive evaluation of these concepts, interaction flows were generated for each theme. These flows serve as preliminary design materials that outline the user's journey through the concept, capturing key touchpoints, interactions, and outcomes.

Upon completion of the concept evaluation, the most promising concept will be selected for further design and development. This will involve refining the interaction flow, conducting user testing, and ultimately, implementing the concept into a functional prototype.

By meticulously evaluating these interaction flows, the project aims to identify the most suitable concept that not only engages post-stroke patients but also effectively motivates them to participate in their rehabilitation activities.

Concept A: A Gardener

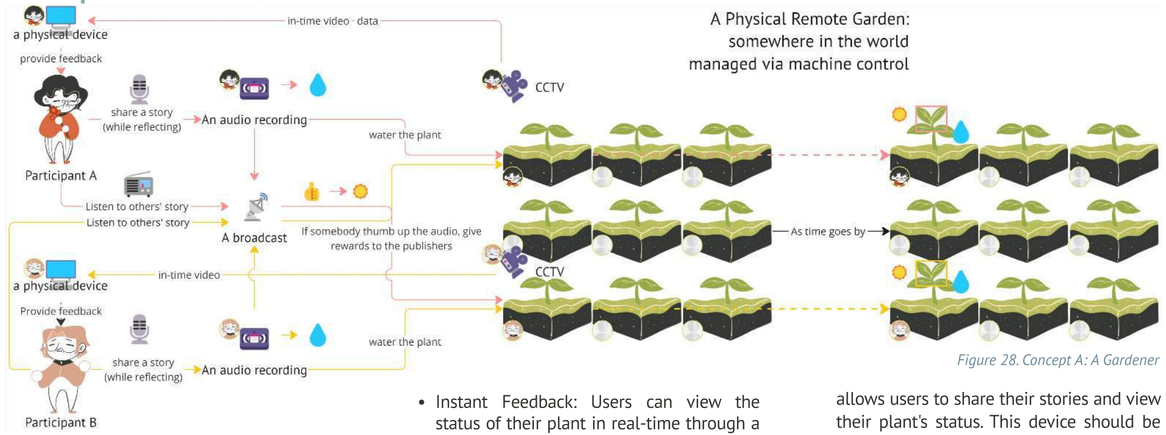


Figure 28. Concept A: A Gardener

Concept A introduces a remote, machine-controlled garden that serves as a metaphorical space for post-stroke patients' rehabilitation journey, as shown in Figure 28. In this concept, the act of sharing personal rehabilitation stories translates into watering a virtual plant in this remote garden. The concept aims to provide immediate feedback, social support, and a sense of achievement to the users.

Key Features

- Storytelling as Watering: Each time users share their rehabilitation story, their corresponding plant in the remote garden receives a "drop of water," contributing to its growth.
- Instant Feedback: Users can view the status of their plant in real-time through a CCTV feed, providing immediate feedback on their contributions.
- Social Support: Thumbs-up or likes from other users act as additional "nutrients," encouraging the plant's growth and providing social validation.
- Competence Trigger: The ability to view other users' plants fosters a sense of competence and motivation.
- Sense of Achievement: The plant's growth is a tangible indicator of the user's progress in their rehabilitation journey.

Technical Requirements

- Physical Device: A portable device that allows users to share their stories and view their plant's status. This device should be user-friendly and accessible.
- Machine-Controlled Garden: A physical space where the plants are maintained and grown through automated systems.
- CCTV Feed: A secure and real-time video feed that allows users to view their plants and receive instant feedback.

Psychological Benefits:

- Reflection: Sharing stories allows users to reflect on their rehabilitation process, providing psychological benefits.
- Social Support: Receiving thumbs-up and viewing others' plants offer social validation and support, crucial elements in the rehabilitation process.

Concept B: An Architect

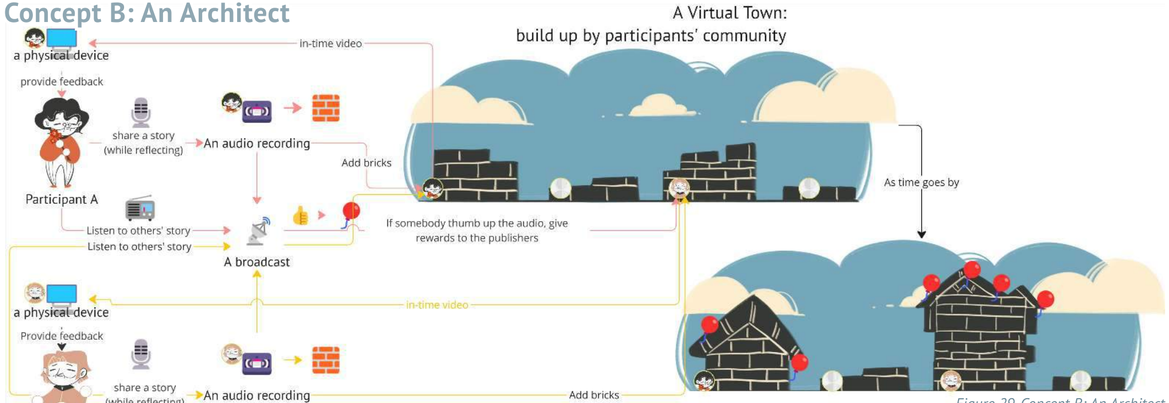


Figure 29. Concept B: An Architect

Concept B diverges from Concept A by employing the metaphor of architectural construction to symbolise the rehabilitation journey of post-stroke patients, as shown in Figure 29. Each voice message shared by the user serves as a building block in their own virtual edifice. The concept retains elements of social support, competence triggers, and a sense of achievement, akin to Concept A.

Key Features

- Voice Messages as Building Blocks: Each voice message shared by the user contributes to the construction of their virtual building.
- Instant Feedback: Users can view the real-time progress of their building, offering immediate feedback on their contributions.
- Social Support: Thumbs-up or likes from other users serve as decorative elements on the building, providing additional rewards and social validation.
- Competence Trigger: The ability to view other users' buildings fosters a sense of competence and motivation.
- Sense of Achievement: The architectural progress serves as a tangible indicator of the user's rehabilitation journey.

Technical Requirements

- Virtual Platform: A digital interface is required where users can share voice messages and view the progress of their building.
- Physical Device Compatibility: The platform should be accessible through a physical device, similar to the one mentioned in Concept A, allowing users to share stories and view their building's progress.
- Real-Time Updates: A system that updates the building's progress in real-time based on user contributions.

Psychological Benefits:

- Reflection: The act of sharing voice messages allows users to reflect on their rehabilitation process.
- Social Support: Receiving thumbs-ups and viewing others' buildings offer social validation and support.

Concept C: A Caretaker

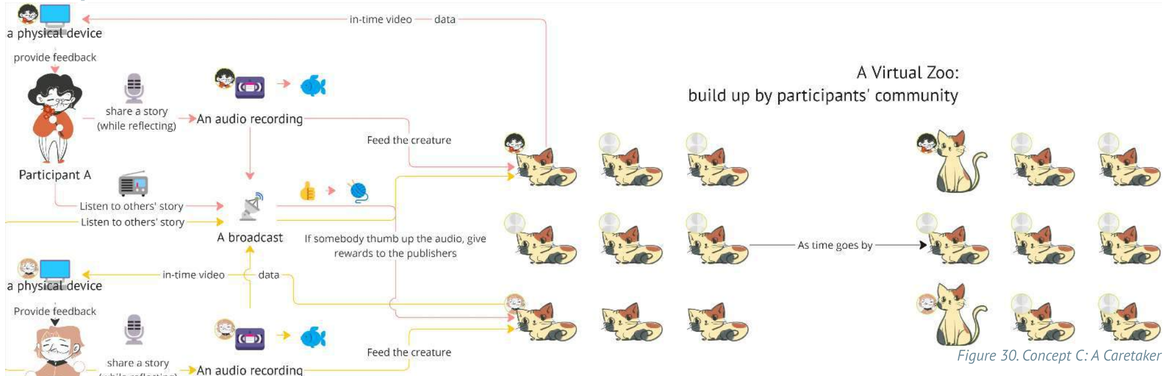


Figure 30. Concept C: A Caretaker

Concept C introduces a unique narrative twist by employing the metaphor of pet care, specifically cat care, to represent the rehabilitation journey of post-stroke patients, as shown in Figure 30. Each voice message the user shares serves as a piece of fish to feed their virtual cat. Like Concepts A and B, this concept also incorporates elements of social support, competence triggers, and a sense of achievement.

Key Features

- Voice Messages as Fish: Each voice message the user shares contributes to feeding their virtual cat.
- Instant Feedback: Users can view the real-time well-being and growth of their cat, offering immediate feedback on their contributions.
- Social Support: Thumbs-ups or likes from other users serve as toys for the cat, providing additional rewards and social validation.
- Competence Trigger: The ability to view other users' cats fosters a sense of competence and motivation.
- Sense of Achievement: The well-being of the cat serves as a tangible indicator of the user's rehabilitation journey.

Technical Requirements

- Virtual Platform: A digital interface is required where users can share voice messages and view the progress of their cat.
- Physical Device Compatibility: The platform should be accessible through a physical device, similar to the one mentioned in Concept A, allowing users to share stories and view their cat's progress.
- Real-Time Updates: A system that updates the cat's well-being in real-time based on user contributions.

Psychological Benefits:

- Reflection: The act of sharing voice messages allows users to reflect on their rehabilitation process.
- Social Support: Receiving thumbs-up and viewing others' cats offer social validation and support.

CONCEPT EVALUATION

Requirements	it should be able to be raised up step by step	it should provide a sense of achievement	it should provide social support	it should only require minimised capability	it should provide instant feedback	it should be attractive and engaging	Final Grade
Concept A	★★★	★★★	★★★	★★★	★★★	★★★	88.89
Concept B	★★★	★★★	★★★	★★☆	★★★	★★☆	84.44
Concept C	★★☆	★★★	★★☆	★★★	★★★	★★☆	71.22

Methodology

To determine the most suitable concept for further development, a weighted scoring matrix was employed. Design requirements were ranked and weighted based on their significance as determined by the design team.

Subsequently, fellow students were enlisted to score each concept against these weighted criteria. The scores were then averaged for each item, and a final grade was calculated for each concept.

Results

Upon completion of the evaluation process, Concept A emerged as the highest-scoring option, thereby establishing it as the foundation for subsequent design phases.

Rationale

Concept A's superior performance in the evaluation can be attributed to its alignment with key design requirements and its potential for fulfilling the overarching design goals. The concept's features, such as real-time feedback through a physical garden, social support mechanisms, and competence triggers, resonated well with the evaluators, making it the most viable candidate for further development.

Next Step

With Concept A selected as the baseline for further design, the next phase will involve refining its features, conducting user testing, and developing a detailed implementation plan. The focus will be on enhancing its technical feasibility, user engagement, and alignment with the project's psychological and rehabilitative objectives.

5.2 FINAL SELECTED CONCEPT OVERVIEW

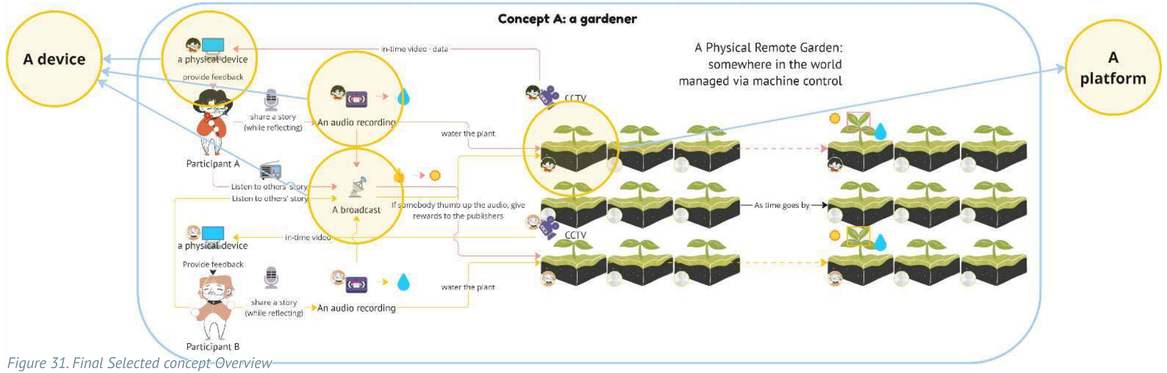


Figure 31. Final Selected concept Overview

As described in the Concept A, Concept A creates a virtual, machine-managed garden to symbolize the recovery journey of people who have had a stroke, as shown in Figure 31. Sharing a recovery story "waters" a plant in this garden, aiming to give users immediate feedback, social support, and a sense of achievement. The garden is managed through a simple device and an automated system, with a live video feed for instant feedback. Features like social "likes" and the ability to see others' plants boost motivation and offer psychological benefits such as reflection and social validation.

FUNCTIONS OF THE COMPONENTS

To make this concept work properly, two key components must be developed: the device and the platform, as illustrated in Figure 31.

The Device

This device serves as the main point of contact for users with the entire system and is meant to be kept in their homes. Here are the functions it should include:

- an overview of the plant's statue
- record stories and upload them
- view the feedbacks from others
- listen to others' stories
- give feedback to others' stories
- invite others to view the story

The Platform

This device is designed to give users a sense of achievement and social support. Here are the functions it should possess:

- an overview of the plant's statue
- an overview of others' plants
- history of rewards that the plants got
- history stories of a plant
- a brief ai-generated summary of each stories
- share with the social media

5.3 ITERATION BASED ON THE SELECTED CONCEPT

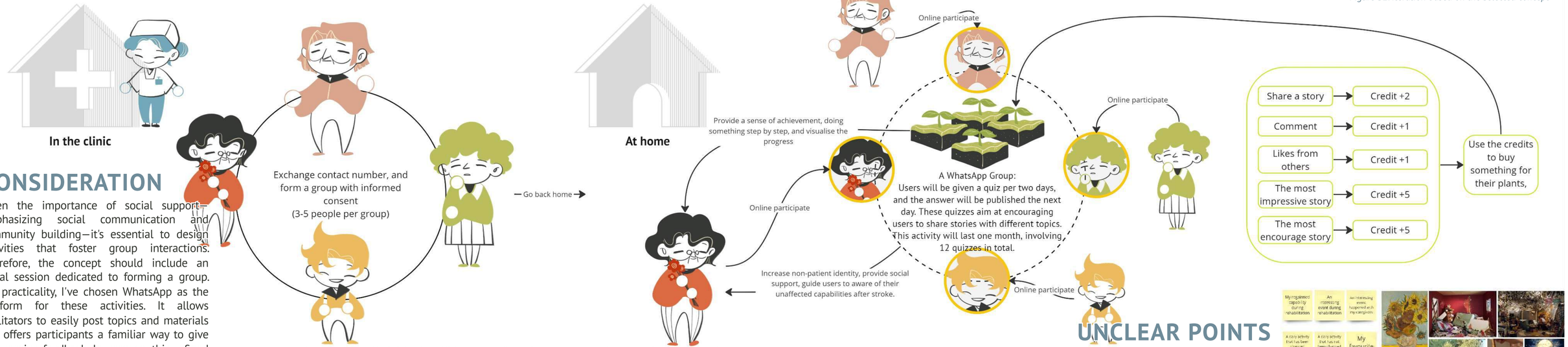


Figure 32. Iteration based on the selected concept

CONSIDERATION

Given the importance of social support—emphasizing social communication and community building—it's essential to design activities that foster group interactions. Therefore, the concept should include an initial session dedicated to forming a group. For practicality, I've chosen WhatsApp as the platform for these activities. It allows facilitators to easily post topics and materials and offers participants a familiar way to give and receive feedback. In essence, this refined concept simplifies the practical aspects of the design.

ITERATION DESCRIPTION

The refined concept is divided into two phases, building on the idea of sharing stories to help users recognize their undiminished abilities through the metaphor of being a gardener, as shown in Figure 32.

Phase 1:
While in the clinic, stroke survivors voluntarily exchange contact numbers and form a group under staff guidance, always ensuring informed consent. Ideally, each group should consist of 3-5 members, a size optimal for fostering an active and encouraging environment for sharing and feedback.

Phase 2:
Once users return home, they continue their interactions via the pre-established WhatsApp group. They receive a quiz every two days, with answers revealed the following day. These quizzes are designed to stimulate story-sharing around various topics. The entire activity spans one month, consisting of 12 quizzes. Users can also comment on others' stories and read the feedback they receive.
To gamify the experience, each user gets a virtual plant. Their interactions earn them credits, which can be spent on enhancements for their plant. This system serves as an incentive, promoting regular interactions and bolstering their social connections.

UNCLEAR POINTS THAT NEED TO BE EXPLORED

Topics

The selection of topics for sharing requires more in-depth exploration. While the current topics in the concept have been sourced from interviews and trending subjects on social networks, it's essential to curate topics that are engaging and varied. At the same time, care must be taken to ensure these topics don't inadvertently elicit extreme negative emotions or traumatic memories.

Identity with Themes

The relationship between identity and motivation appears intricate, varying significantly among individuals, as highlighted by our interview results. Hence, it remains uncertain whether leaning more towards a non-patient identity is beneficial or not. As a result, a more thorough exploration of the ideal identity is warranted.

Additionally, while the gardener and plant-care theme emerged from brainstorming with design students, its appeal to the target group is not guaranteed. Therefore, it's essential to delve deeper to identify a theme that genuinely resonates with our intended audience.

Reward System

The existing reward system is quite basic. It may be beneficial to investigate more sophisticated reward mechanisms, incorporating design principles to enhance its efficacy and appeal

Intervening Timing

I believe that this intervention could be most effective post-clinic rehabilitation, given that individuals often experience reduced social interactions during this phase compared to their time in the clinic. Yet, the potential of initiating this intervention during their in-clinic rehabilitation hasn't been examined, and it's possible that there could be advantages to this approach as well.

Frequency

The current frequency of having this storysharing activity is once per two days based on my intuition. The most suitable frequency needs to be explored.

06 Evaluation

In this chapter, I'll outline how I evaluated our refined concept, detailing our methods, design choices, materials used, and how we collected and analyzed data.

I conducted the assessment at Rijndam with four participants, with each session lasting 20 minutes.

In my conclusions, I note that stories about current rehab experiences were most popular, suggesting we need more diverse topics for those rehabilitating at home. Stories related to rehab increased motivation, but the 'gardener' metaphor didn't resonate as well. Making the reward system tie directly to storytelling might make it more effective. Also, encouraging patients to share stories with their rehab peers could be beneficial. Because participants are open to sharing stories at different rehab stages, starting this activity earlier in their rehab might be a good idea.

6.1 MAIN GOAL OF THE EVALUATION

The primary objectives of the evaluation session include:

1. Assessing if sharing stories enhances users' overall well-being and motivates them to engage in rehabilitation activities.
2. Determining users' willingness to join such groups, taking into account potential privacy concerns.
3. Identifying topics that resonate most with the users.
4. Assessing if users can adopt and relate to a new identity as a gardener.

6.2 OVERALL APPROACH OF THE EVALUATION

STUDY DESIGN

The research team, in collaboration with Rijndam, meticulously crafted the evaluation methodology. Following several design iterations, pilot tests, and discussions, we reached a consensus on the final evaluation format.

	Recruitment	Clarification and Introduction	Questions
Duration	2 mins	5 mins	13 mins
Question	Would you like to participate in the research?	Here is the introduction of this project and the process of the evaluation. You're free to stop whenever you want.	How is it going with your current motivation and patient/non-patient identity in the clinic and at home? Could you please share a story with your interested topics? What's your identity and motivation now? What are your preferences towards the concept?
Outcome	Participation	Awareness of the basic information.	Identity, motivation, willingness, interested topics.

Figure 33. Evaluation Process

Recognizing the cognitive limitations and time constraints of the participants, we set a 20-minute cap for each evaluation session. We revised the evaluation script five times, with the latest version, Evaluation Script-ver 5.0, available in Appendix 6. The sequence of the evaluation session is depicted in Figure 33.

LANGUAGE BARRIERS AND TRANSLATION

Given potential cognitive or speech challenges among the target group, it was essential to provide materials in the participants' native tongue, which is Dutch. As mentioned in the interview chapter, my proficiency in Dutch was limited due to being an international student. To address this, the research team collaborated with Zexuan, a Bachelor's student from Tu Delft. Zexuan graciously volunteered to translate our research materials and handle the evaluation in Dutch. After the evaluations, I transcribed the recordings into Dutch. Ensuring confidentiality by omitting personal details, I then translated the transcripts to English for further analysis.

MATERIALS

Due to the unique needs of our participant group, meticulous planning was paramount to ensure an accommodating research setting. Recognizing potential visual impairments, we offered all materials in an audio version, negating the necessity to read. We addressed cognitive concerns by ensuring that all text and verbal instructions were clear and straightforward. Furthermore, most questions were crafted to be answered using sliders, illustrated in Figure 34, streamlining the response process and conserving participants' energy.

We also took measures to protect participants' emotional well-being. In collaboration with psychologists from Rijndam, we established support mechanisms before and after the evaluations. If participants showed any signs of emotional distress post-evaluation, it was promptly reported to the psychologists, ensuring prompt and appropriate care was available.

ETHICS

From an ethical standpoint, we prioritized keeping participants fully informed. Before the official evaluation, each participant received an announcement, which was adapted from TU Delft's standard informed consent template. This announcement emphasized the stringent measures in place to protect personal information and affirmed participants' right to opt out of the study whenever they chose. This approach ensured that our research upheld the highest standards of ethical conduct throughout.

PARTICIPANTS

Participants for the study were sourced from Rijndam, where our research team targeted patients undergoing current rehabilitation treatments and spending a minimum of two days weekly at home. This selection ensured a diverse range of experiences while adhering to ethical considerations.

Figure 34. Evaluation Setting

Due to time restrictions on both participants and the healthcare providers, advanced recruitment was infeasible. Instead, recruitment happened on the actual evaluation day. Rijndam's healthcare providers played a pivotal role, pinpointing potential participants, swiftly scheduling interview slots, and disseminating essential details via informational flyers. Our research team then set up in an available room at Rijndam, awaiting participants based on the scheduled slots.

Rijndam's institutional guidelines allowed for only four participants. Eligibility criteria included:

1. Undergoing stroke recovery and currently receiving treatment at Rijndam, with at least two home rehab days weekly.
2. Proficiency in Dutch, English, or Mandarin.
3. A minimum age of 18 years.

DATA COLLECTION

The evaluation process was structured to cover four dimensions to gather comprehensive insights. Here's a breakdown:

1. **Selecting Attractive Topics and Sharing Stories:**
   This segment aimed to understand which topics appealed to the participants and the narratives they associated with them. The interviewer wanted to gauge how participants reacted to different topics and what stories these topics inspired.
2. **Measuring the Changes of Identity and Motivation After Story Sharing:**
   After participants shared their stories, this part assessed shifts in their self-perception and motivation levels. It sought to uncover any correlation between the act of story sharing and possible changes in identity and motivation.
3. **Measuring the Basic Mechanism of the Concept:**
   This section delved into the participants' understanding and evaluation of the core concept of the study. It ensured that participants grasped the foundational idea and allowed them to provide feedback on its effectiveness.
4. **Measuring the Concept of Being a Gardener and Taking Care of a Plant:**
   The metaphor of being a gardener and nurturing a plant was an innovative approach in the study. This segment gauged how participants related to this concept, whether they found it engaging, and its overall impact on their rehabilitation journey.

In parallel to these structured questions, the interviewer maintained an open approach. They noted down any interesting or out-of-scope topics that emerged during the conversation, ensuring a holistic understanding of the participants' perspectives.

Post-interview, the collected audio recordings were transcribed to ensure no detail was overlooked. In addition, the visual aids and tools, such as boards and cards, were digitally archived. This dual-mode of data collection – auditory and visual – ensured a thorough representation of the interview sessions. All non-English data was meticulously translated to maintain the integrity of the insights while making them accessible for broader analysis.

DATA ANALYSIS

To identify the best topics, we used thematic analysis. This helped us understand the deeper meanings of the topics discussed during the evaluation.

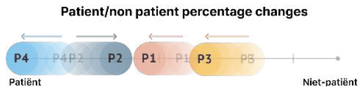
To understand the core mechanics and assess changes in motivation and identity, we conducted a group analysis. The aim was to spot patterns by looking at differences in how people felt about their identity and motivation.

6.3 RESULTS OF EVALUATION

TOPICS

More than half of the selected topics discussed rehabilitation, focusing on recovered abilities and notable events during recovery, as sown in Figure 35. Less than a third were about daily life. No topics related to images were chosen.

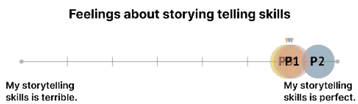
PATIENT/NON-PATIENT IDENTITY



When participants chose topics related to rehabilitation, most felt more like a patient but were also more motivated to pursue their rehabilitation. However, one participant felt less patient-like after sharing a story about her favorite book.

STORYTELLING SKILLS' SATISFACTION

Figure 35. Topic Analysis

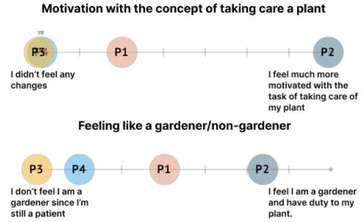


Despite not speaking often, all participants were confident in their storytelling abilities.

MOTIVATION WITHIN A COMMUNITY

The majority of participants felt highly motivated to engage in rehabilitation due to the storytelling and community sharing activity. However, one participant did not find the activity motivating at all.

DIFFERENT IDENTITY WITH THE CONCEPT



Only one participant resonated with the concept of being a gardener and caring for a plant, finding it motivating. The others, who didn't identify with being a gardener, didn't notice any change in their motivation from this concept.

PEOPLE WITHIN THE COMMUNITY

All participants expressed a desire to share stories within a community consisting of their family and friends. Besides, only one individual was open to sharing stories with a broader audience, including other patients, doctors, as well as family and friends.

FREQUENCY

No participant expressed interest in sharing stories daily. One preferred sharing every two days, another once a week. The remaining two participants were uncertain about their preferred frequency.

INTERVENING TIMING

The majority of participants expressed a desire to engage in the sharing activity both during their time at the rehabilitation center and afterwards at home. Only one participant preferred to participate after their rehabilitation at the center, but during their home-based rehabilitation.

6.4 MAIN OUTCOMES

TOPIC DESIGN

Clearly, topics related to rehabilitation resonate more with our target group. This is likely because they're currently living in the rehabilitation center, making these topics more relevant to their daily lives. Given this, I recommend further topic exploration with stroke survivors who are rehabilitating at home.

Additionally, participants occasionally found some topics confusing at the outset. However, with some prompting and guidance from the interviewer, they were able to craft their stories. Therefore, it seems essential to provide additional guidance, perhaps in the form of guiding questions, for each topic.

ROLES OF THE IDENTITY

The identity shifts seem to be closely tied to the topics participants select. For instance, when they choose rehabilitation-related topics, their identification as a patient typically strengthens, but interestingly, their motivation for rehabilitation also increases. Given this, it appears that having a patient/non-patient identity might not be as crucial in this context, as long as it doesn't lead to any mental distress and overall well-being is maintained.

Regarding the introduction of an alternative identity beyond the patient label, it seems this might be an overextension for this design. Most participants didn't fully grasp the concept of seeing themselves as gardeners tending to plants, suggesting that this metaphor might be too abstract or not directly relevant to their experiences.

EXTERNAL REWARD SYSTEM WITH THEMES BASED ON IDENTITY

The gardener identity concept wasn't particularly resonant for participants, suggesting that the thematic foundation for the reward system may need rethinking.

Furthermore, the current external rewards might be redundant in this context. The act of sharing stories inherently offers its own positive reinforcement. However, if there's still a desire to include external incentives, there needs to be a more seamless integration between the act of sharing and the rewards, making the two feel intrinsically connected. This could potentially amplify the sense of achievement and motivation among participants.

BASIC MECHANISM

Community Involvement

Participants prefer sharing stories with those they're close to, likely due to the personal nature of their experiences. While family and friends are crucial, they may not be the primary audience for these shared stories. Thus, it might be beneficial to encourage patients to connect with peers from the rehabilitation center. These peers, having similar experiences and ample time, could provide a supportive and understanding platform for story-sharing.

Frequency of Sharing

The consensus seems to be that story-sharing shouldn't occur too frequently, but the ideal rhythm is still up for determination. It's essential to strike a balance that ensures regular interaction without feeling burdensome.

Timing of Intervention

The data suggests that participants are open to beginning the story-sharing process both during and post-rehabilitation at Rijndam, as well as during their home rehabilitation. This flexibility indicates that introducing the intervention earlier than initially planned might be beneficial. Considering this, the intervention could be segmented into phases, each tailored to the specific stage of rehabilitation the patient is in.

6.5 CONCLUSIONS

Participants demonstrated a clear preference for themes related to their current rehabilitation experiences, necessitating further topic exploration for survivors rehabilitating at home. This preference also influenced identity perceptions; when engaging with rehabilitation-centric topics, participants felt a strengthened association with their patient identity. Interestingly, this deepened identity concurrently bolstered rehabilitation motivation. Attempts to incorporate alternative identities, like the 'gardener' metaphor, however, were less resonant, suggesting the need for more relatable or straightforward metaphors.

The thematic approach to the external reward system, rooted in the less effective gardener identity, calls for reconsideration. While the act of storytelling offers inherent satisfaction, if external rewards are to be incorporated, their integration should be more intrinsic, directly linking the act of sharing to the reward. On the operational front, participants showed an inclination to share stories with familiar individuals, suggesting a potential benefit in fostering peer support within the rehabilitation center. The frequency of these interactions should be regular yet not overwhelming, maintaining a balance that encourages consistent engagement without being burdensome.

The data indicates a willingness among participants to engage in story-sharing both during their time at Rijndam and post-rehabilitation, as well as during home rehabilitation. This flexibility suggests the potential efficacy of introducing the intervention earlier than initially planned. Consequently, a phased approach, tailored to the specific rehabilitation stage of each patient, could be beneficial, ensuring the intervention remains relevant and supportive throughout their recovery journey.

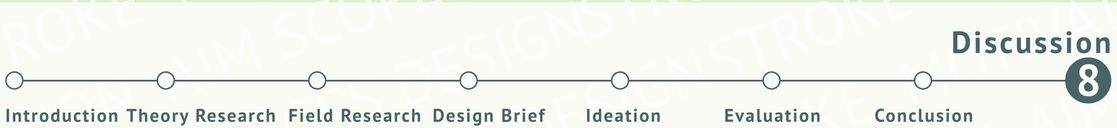
In sum, while the foundational premise of storytelling holds promise, the nuances of topic selection, identity dynamics, reward systems, and operational elements demand careful consideration and iteration to ensure the intervention's effectiveness and relevance for stroke survivors in rehabilitation.

07 Conclusion

In this thesis, I set the foundation by detailing the importance of motivating stroke survivors towards activities that aid their recovery. Building on existing research, I delved deep into psychological theories such as Self-Determination Theory (SDT) and Identity-Based Motivation (IBM), aiming to understand how identity and motivation interplay in post-stroke rehabilitation. With the help from Rijndam rehabilitation centre, fieldwork and data collection, comprising of observations and interviews, indicated a keen interest in stories related to current rehab experiences. These stories not only solidified the identity of the patients but also boosted their rehabilitation motivation. However, some metaphors, like the 'gardener' concept, weren't as impactful.

Progressing, I outlined a design vision focused on an interactive platform where patients share their rehab journeys, fostering community and motivation. This led to the idea of integrating a reward system anchored to the act of storytelling. The evaluation phase at Rijndam provided insights on the topics that resonate most with patients, and the importance of their chosen identities in their rehabilitation journey. The feedback also illuminated the need for an effective external reward system and the potential benefits of peer sharing within the rehab community.

To conclude, the storytelling approach offers a promising avenue for stroke rehabilitation. However, the design intricacies—such as topic selection, identity dynamics, and the reward mechanism—require careful fine-tuning. There's a clear inclination towards storytelling that connects with the patient's current rehab experience. To maximize benefits, a phased, tailored storytelling intervention might be introduced early in the rehabilitation process, ensuring it supports the patient throughout their recovery.



08 Discussion

In this chapter, I discuss limitations that I faced in multiple aspects.

8.1 LACK OF SAMPLES

In our study, I faced a challenge with having only a few participants: six for the interviews and four for the evaluation. This small number means I didn't get as wide a range of views as I might have liked, especially when exploring the connection between SDT and IBM. Time restrictions, finding willing participants, and other practical issues held us back from involving more people. It's important to remember this when considering our results, as they might only reflect the views of our specific group. For a clearer picture in the future, it would help to include more and varied participants to make our findings more dependable and relevant.

8.2 CAPABILITIES OF THE PARTICIPANTS

Owing to potential cerebral impairments resulting from strokes, post-stroke survivors frequently exhibit a range of functional deficits. These include speech impediments, cognitive challenges, diminished auditory capacity, and compromised motor control of limbs and digits. Given these circumstances, it is imperative that during the interview and co-creation phases, I meticulously structure the sessions to extract pertinent information while accommodating the limited activity scope of the participants.

READING AND SPEECHING CAPABILITY

In light of potential reading and speech capabilities, all materials must be presented in Dutch to mitigate comprehension and linguistic barriers. Furthermore, the language employed should align with the B1 proficiency level of the Dutch language. Additionally, the estimated interview duration should exhibit greater flexibility than is customary.

Additionally, the estimated interview duration should exhibit greater flexibility than is customary.

FINGER AND ARM CAPABILITY

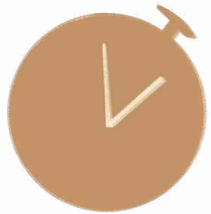
Given the constraints in finger and arm functionality, requesting participants to engage in tasks such as writing, completing booklets, or participating in card games may pose challenges. Consequently, the research design must be tailored to accommodate these specific conditions.

COGNITIVE CAPABILITY

Owing to potential cognitive impairments, the interview questions must be understandable for the participants. This necessitates multiple pilot testing rounds to ensure clarity. Additionally, the emergence of negative emotions or adverse reactions during the interview is possible. As such, it is crucial to have an after-care strategy and a contingency plan in place.

8.3 COMMUNICATION WITH STAKEHOLDERS

Given our stakeholders' demanding schedules and meticulous scrutiny of our plan, it is essential to engage in repeated communications to ensure all aspects are firmly established before the official interviews.



8.4 TIME LIMITATION

Considering the temporal constraints of the graduation project, coupled with the limited availability and stringent schedules of the participants, we are confined to interviewing a restricted number of participants for 30 minutes each. This limitation implies a potential lack of data and may preclude the possibility of conducting multiple rounds of co-creation and evaluation. Such constraints could introduce potential biases in the outcomes.

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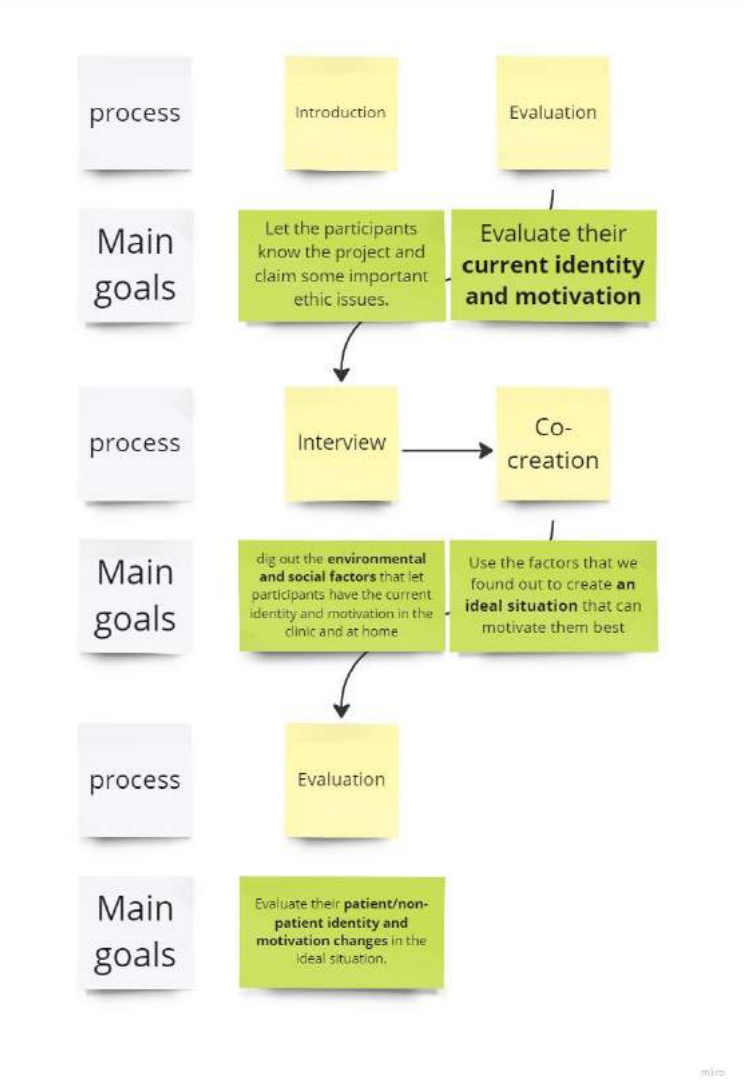
Weiwei Kang

March-October2023

Appendix 1: Interview scrips -ver 7



Interview

Introduction (0.5 mins)

Project Introduction

General greeting

Good morning, Ms/Mr *[Name]*! Welcome to the interview for my graduation project, collaborated with TU Delft and Rijndam.
Goedemorgen, mevrouw/meneer [naam]! Welkom bij het interview voor mijn afstudeerproject, in samenwerking met TU Delft en Rijndam.

Appreciate for participants

First of all, I greatly appreciate your participation!

Allereerst bedankt voor je deelname aan dit onderzoek.

The aim of the project

This project aims at increasing post-stroke patients' motivation to do rehabilitation by modifying the related environmental and social factors. Through this interview, we are going to find out the related environmental and social factors in your context, which would be helpful for us to do the final design and test.

Interview process

During the interview, I'm going to ask about the related factors that make you feel like a patient or not like a patient in the clinic and at home. After we collect those factors, we are going to create an ideal situation that can motivate you best together by playing with the factors we found out.

The result of the project

The outcome of the project will come out around the end of August, and you might have an opportunity to participate in the evaluation session. After that, the final result would be used in a PhD project, which might be implemented into practice in the future.

Claim

Second, I'll claim the data management plan and the things we need to keep in mind.
Ten tweede zal ik het hebben over de verwerking van dit interview.

Audio recording
During the interview, I'll keep audio recording which will be super helpful for further analysis, as which has been claimed in the informed consent.
Tijdens het interview maak ik audio-opnamen die zeer nuttig zullen zijn voor verdere analyse van dit gesprek.

You can stop…

During the interview, there might be some moments when you feel no good. You can stop whenever you want to, I can 100% understand that.
Tijdens het interview kunnen er momenten zijn waarop je je niet goed voelt of even pauze nodig hebt. Je kunt stoppen wanneer je wilt, dat begrijp ik 100%.

You're the expert…

Before we start the interview, there is an important thing you need to keep in mind. You're the expert in your experience, and as a researcher, I'm here to learn from you. Please feel free to say anything you want to say.
Voordat we met het interview beginnen, is er iets belangrijks dat je in gedachten moet houden. Jij bent ervaringsdeskundige, en als onderzoeker ben ik hier om van jou te leren. Voel je vrij om alles te zeggen wat je wilt zeggen.

Motivation Evaluation (1 mins)

Introduction

In this session, I want to evaluate their current patient/non-patient identity and current motivation in different contexts.
Let's start with a simple evaluation! Before our Q&A session, I want you to evaluate how much you feel you are like a patient or not like a patient in the clinic and at home, and your motivation for doing rehabilitation in the clinic and at home on the board.
Bedankt voor het delen van je verhaal! Voor onze vraag- en antwoordsessie wil ik dat je je motivatie voor revalidatie in de kliniek en thuis op het bord evalueert.

Interview their identities at the clinic and at home (9 mins)

Introduction

Thanks for your answer! Then, as the next step, I'm going to ask you a few questions. As I said before, please feel free to say anything you want to say; all the data will be anonymised.
Bedankt voor het invullen van de inventaris! Als volgende stap ga ik je een paar vragen stellen. Zoals ik al eerder zei, voel je vrij om alles te zeggen wat je wilt; alle gegevens worden geanonimiseerd.

Questions

Question 1: Clinic Environment (4 mins)

In this question, the aim goal is to find out the most related factors **(environmental factors+people factors+activity factors, etc.)** that make people feel patient and non-patient in the clinic. You can refer to exercise 4 of the booklet and exercise 5.

Description

Okey, now let's start. I will ask you some questions about the related environmental and social factors in the clinic and at home that might have impacts to your identities in your context. First, lets start here at the clinic. And while you answer the following questions, we can use the map to make your experience more clear.
De eerste vraag gaat over de fysieke en sociale factoren die van invloed kunnen zijn op je identiteit als patiënt en niet-patiënt. En terwijl je de volgende vragen beantwoordt, kunnen we de kaart gebruiken om je ervaring duidelijker te maken.

Main questions

- What are the environmental elements from the clinic that make you feel like a patient? For example, the staff's uniform, the medical equipment, the decoration, and so on. Op het moment dat je je een patiënt voelde, Wat was de aanleiding waardoor je je een patiënt voelde? Bijvoorbeeld het uniform van het personeel, de medische apparatuur, de decoratie, enzovoort.
- And what was the **social** trigger that lets you feel like this? For example, the restricted time schedule, the activity that you need to do or you cannot do, the

people's attitude, and so on. En wat was de sociale trigger waardoor je je zo voelt? Bijvoorbeeld het beperkte tijdschema, de activiteit die je wel of niet moet doen, de houding van de mensen, enzovoort.

- When you are here in the clinic, do you feel all the time you are a patient, or do you have moments in which you don't feel like a patient? Heb je een bepaald moment gehad waarop je plotseling voelde dat je GEEN patiënt was? Kun je dat moment beschrijven?
- At the time when you felt you were not a patient, what was the environmental trigger that lets you feel like this? For example, the garden, the decorations, and so on. Op het moment dat je het gevoel had dat je geen patiënt was, wat was de omgevingstrigger waardoor je je zo voelde? Bijvoorbeeld de tuin, de versieringen enzovoort.
- And what was the social trigger that lets you feel like this? For example, the people around you, maybe your friends and family, walking dogs, etc. En wat was de sociale trigger waardoor je je zo voelt? Bijvoorbeeld de mensen om je heen, misschien je vrienden en familie, honden uitlaten, enz.

Question 2: Home Environment (4 mins)

Description

In this question, the aim goal is finding out the most related factors (environmental factors+people factors+activity factors, etc.) that make people feel patient and non-patient AT HOME. You can refer to exercise 3 of the booklet, exercise 6, and exercise 7.
Thanks for sharing your experience! Let's go to the second topic of three, which is still about your ideas about the factors that have impacts on who you are in the home environment. Bedankt voor het delen van je ervaring! Laten we naar het volgende onderwerp gaan. Het tweede onderwerp gaat nog steeds over je ideeën over wie je bent, maar dan in je thuisomgeving.

Main questions

- **At home,** did you have any certain moment when you suddenly felt you WERE a patient? Had je in de kliniek een bepaald moment waarop je plotseling het gevoel had dat je een patiënt WAS?
- At the time when you felt you were a patient, what was the **environmental** trigger that lets you feel like this? For example, the staff's uniform, the medical equipment, the decoration, and so on. Op het moment dat je je een patiënt voelde, Wat was de aanleiding waardoor je je een patiënt voelde? Bijvoorbeeld het uniform van het personeel, de medische apparatuur, de decoratie, enzovoort.
- And what was the **social** trigger that lets you feel like this? For example, the restricted time schedule, the activity that you need to do or you cannot do, the people's attitude, and so on. En wat was de sociale trigger waardoor je je zo voelt? Bijvoorbeeld het beperkte tijdschema, de activiteit die je wel of niet moet doen, de houding van de mensen, enzovoort.

- Did you have any certain moment when you suddenly felt you were NOT a patient? Heb je een bepaald moment gehad waarop je plotseling voelde dat je GEEN patiënt was? Kun je dat moment beschrijven?
- At the time when you felt you were not a patient, what was the environmental trigger that lets you feel like this? For example, the garden, the decorations, and so on. Op het moment dat je het gevoel had dat je geen patiënt was, wat was de omgevingstrigger waardoor je je zo voelde? Bijvoorbeeld de tuin, de versieringen enzovoort.
- And what was the social trigger that lets you feel like this? For example, the people around you, maybe your friends and family, walking dogs, etc. En wat was de sociale trigger waardoor je je zo voelt? Bijvoorbeeld de mensen om je heen, misschien je vrienden en familie, honden uitlaten, enz.

Question 3: Motivation (1 mins)

Description

The aim of this question is to let them point out which current situation can motivate them best. Rank the four situation by 1, 2, 3, 4. 1 is the situation with the strongest motivation.
Thanks for your effort in building this map with me! Now let's move to our last topic.
Bedankt voor je moeite om deze kaart samen met mij te maken! Laten we nu naar ons volgende onderwerp gaan.

Main questions

- Back to the situations we discussed, in which situations do you think you have better motivation to do the rehabilitation? Could you please rank them? Terug naar de situaties die we hebben besproken: in welke situaties denk je dat je beter gemotiveerd bent om te revalideren? Kunt u ze rangschikken?

Co-creation (12 mins)

Introduction (0.5 mins)

Thanks for your compliment! It's time to start our ten-minute co-creation session. In this session, we are going to create concepts together to build an ideal situation in which you are super motivated to do rehabilitation. Please feel free to say and do anything you want, your ideas are super valuable to me!
Bedankt voor je deelname! Het is tijd voor onze tien minuten durende co-creatiesessie. In deze sessie gaan we samen concepten creëren om een ideale situatie op te bouwen waarin jij super gemotiveerd bent om de revalidatie te doen. Voel je vrij om alles te zeggen en te doen wat je wilt, jouw ideeën zijn super waardevol voor mij!

Instruction (4 mins)

- First, here are 20 blank cards. Please write down or draw, if you want, the five specific elements, no matter environment or social network, that let you feel most like

a patient at the clinic. (refer to the booklet) Allereerst zijn hier 20 blanco kaarten. Schrijf of teken, als je wilt, de vijf specifieke elementen op, ongeacht omgeving of sociaal netwerk, waardoor je je het meest patiënt voelt in de kliniek. (raadpleeg het boekje)

- Please write down or draw the five specific elements, no matter environment or social network, that make you feel most ***not*** like a patient at the ***clinic***. Schrijf alsjeblieft de vijf specifieke elementen op of teken ze, ongeacht de omgeving of het sociale netwerk, waardoor je je het meest niet als een patiënt in de kliniek voelt.
- Please write down or draw the five specific elements, no matter environment or social network, that make you feel most like a patient at ***home***. Schrijf de vijf specifieke elementen op of teken ze, ongeacht de omgeving of het sociale netwerk, waardoor je je het meest als een patiënt thuis voelt.
- Please write down or draw the five specific elements, no matter environment or social network, that let you feel most ***not*** like a patient at ***home***. Schrijf de vijf specifieke elementen op of teken ze, ongeacht de omgeving of het sociale netwerk, waardoor je je het meest niet als een patiënt thuis voelt.
- Now, we are going to create some situations and evaluate your motivation. We're going to test five different situations. Nu gaan we een aantal situaties creëren en je motivatie evalueren. We gaan vijf verschillende situaties testen.

Situation :Ideal situation

Description (5 mins)

This is the most important session in the whole interview. In this session, you can encourage participants to add, move, and remove the factors on the map to create the ideal situation that can motivate them best to do the rehabilitation. While they're doing this session, there might be some moments that participants hesitate and think for a while; you can encourage them to speak out about what they're thinking at these moments. Their thinking is also valuable. You can say something like: You seem a little bit hesitant. What are you thinking, or what are you struggling with?

Another important point is that the most comfortable situation is different from the most motivated situation. But the ideal situation should keep a balance between being too comfortable and being too restrictive. So, if the participants create a too-comfortable situation without any patient factors, then we need to ask them, How is your motivation right now? Can you still be motivated to do the rehabilitation? If their answer is yes, then ask about the deep reasons. If the participants create a too-restrictive situation without any non-patient factors, then we need to ask them, do you feel comfortable with this situation? How long do you think you can bear in this situation?

In this session, you're going to create your ideal situation. Please feel free to remove or add anything you want in the clinic and home situation that you think you can have the best motivation to do the rehabilitation. And then, please imagine you are now in the situation you created, and you've lived here for a week.

Voor de laatste situatie ga je jouw ideale situatie creëren. Voel je vrij om alles wat je wilt te verwijderen of toe te voegen in de kliniek en de thuissituatie waarvan je denkt dat je de beste motivatie hebt om te revalideren. En stel je dan voor dat je nu in de situatie bent die je hebt gecreëerd en dat je hier een week hebt gewoond.

Questions (2 mins)

- How do you feel now? What are your emotions or feelings in the two situations? Hoe voel je je nu? Wat zijn je emoties of gevoelens in de twee situaties?
- How is going with your patient and non-patient percentage? Please adjust the sliders on the board.
- How is going with your motivation? Please adjust the sliders on the board.
- Hoe gaat het met je patiënten- en niet-patiëntenpercentage en motivatie? Pas de schuifjes op het bord aan. Measure the changes to see whether their motivation does increase. If the motivation is not in the highest position, then ask them: what other things can we do towards the factors to increase your motivation?

Final greeting

That's all. Thanks for your time and effort in sharing your experience with me! Your experience and thoughts and super valuable for our research. I've learnt a lot from this interview! If you have anything else that you want to tell me, please feel free to message me via WhatsApp, I'm always willing to hear your thoughts.
Dat is alles. Bedankt voor je tijd en de moeite die je hebt genomen om je ervaring met mij te delen! Je ervaringen en gedachten zijn super waardevol voor ons onderzoek. Ik heb veel geleerd van dit interview! Als je me nog iets wilt vertellen, kun je me altijd een bericht sturen via WhatsApp, ik ben altijd bereid om je gedachten te horen.
Hope your rehabilitation goes well, and good luck!
Ik hoop dat je revalidatie goed verloopt en veel succes!

Backup scripts

Burst in

Sorry that I have to interrupt you. Thanks for your sharing, but we need to go ahead because of the time limitation. You can share further information afterwards.
Sorry dat ik u moet onderbreken. Bedankt voor het delen, maar we moeten doorgaan vanwege de tijdsbeperking. U kunt later meer informatie geven.

Emotional situation

If the participants feel bad: I'm sorry to make you feel bad. The appearance of negative emotions during the interviews is quite common since the discussion may deeply touch your sensitive thoughts. How about you have a couple of mins to have a cup of water and have a rest?
Als de deelnemers zich slecht voelen: Het spijt me dat u zich slecht voelt. Negatieve emoties tijdens de interviews komen vaak voor omdat de discussie je gevoelige gedachten diep kan raken. Waarom neem je niet een paar minuten om een kop water te drinken en even uit te rusten?

Inpatient

I do appreciate your patience in supporting my research! The whole process won't last longer than 40 mins. Your valuable contribution to this topic will be carefully used in further scientific studies.
Ik waardeer jullie geduld om mijn onderzoek te steunen! Het hele proces duurt niet langer dan 40 minuten. Jouw waardevolle bijdrage aan dit onderwerp zal zorgvuldig worden gebruikt in verdere wetenschappelijke studies.

Silence

[Keep waiting seconds until I really feel the participant is roaming in another world.]
[Name], are you all right? Shall we have a break?
[Blijf seconden wachten tot ik echt het gevoel heb dat de deelnemer in een andere wereld ronddwaalt].
[Naam], gaat het? Zullen we even pauzeren?

Embarrassing

[No idea yet.]

Time limitation and next appointment

Sorry to interrupt you, but it seems our time goes very fast. According to our pleasant conversation, I still have some questions about your experience. Is it ok if we make another appointment next time to discuss this further?
Sorry dat ik u onderbreek, maar onze tijd lijkt erg snel te gaan. Volgens ons prettige gesprek heb ik nog een aantal vragen over uw ervaring. Is het goed als we de volgende keer een nieuwe afspraak maken om dit verder te bespreken?
Otherwise, I can send you an email message to continue our discussion.
Anders kan ik je een e-mail sturen om onze discussie voort te zetten.

Appendix 2: Informed Consent

TOESTEMMINGSFORMULIER VOOR AFSTUDEERPROJECTONDERZOEK

Onderzoeksgroep: W.Kang, Valentijn Visch, Jos Kraal, en Samantha Orozco Carvallo
Email voor correspondentie:

Je bent uitgenodigd om deel te nemen aan een onderzoek getiteld ‘Play the self-identity to increase stroke survivors' motivation for rehabilitation. Dit onderzoek wordt gedaan door Kang van de TU Delft met Samantha, Valentijn en Jos.

We minimaliseren eventuele risico's door alle persoonlijke gegevens te anonimiseren, de naam te coderen in nummers en alle gegevens op te slaan in One-Drive, die alleen toegankelijk is voor leden van het onderzoeksteam.

Uw deelname aan dit onderzoek is geheel vrijwillig en u kunt zich op elk moment terugtrekken. Het staat u vrij om vragen achterwege te laten.

Als je vragen of problemen hebt, kun je contact opnemen met W.Kang op en Valentijn Visch op

Het onderzoek duurt 15 minuten, inclusief een interview en een activiteit, waarin u aangeeft welke elementen uw motivatie om thuis en in de kliniek te revalideren vergroten. De gegevens worden gebruikt voor het onderzoek en afstudeerproject van de TU Delft.

Dit project is gericht op het vergroten van de motivatie van patiënten na een beroerte om te revalideren door de gerelateerde sociale en omgevingsfactoren te veranderen. Door middel van dit interview gaan we de gerelateerde omgevingsfactoren en sociale factoren in uw context achterhalen, die ons kunnen helpen bij het uiteindelijke ontwerp en de test.

Het resultaat van het project zal rond eind augustus bekend zijn en je krijgt misschien de kans om deel te nemen aan de evaluatiesessie. Daarna wordt het eindresultaat gebruikt in een PhD-project, dat in de toekomst in de praktijk kan worden toegepast.

VINK DE JUISTE VAKJES AAN	Ja	Geen
A: ALGEMENE OVEREENSTEMMING - ONDERZOEKSDOELEN, DEELNEMERSTAKEN EN VRIJWILLIGE DEELNAME		
1. Ik heb de studie-informatie van [DD/MM/JJJJ] gelezen en begrepen, of deze is mij voorgelezen. Ik heb vragen kunnen stellen over het onderzoek en mijn vragen zijn naar tevredenheid beantwoord.	☐	☐
2. Ik geef vrijwillig toestemming om deel te nemen aan dit onderzoek en begrijp dat ik kan weigeren vragen te beantwoorden en dat ik me op elk moment, zonder opgaaf van reden, uit het onderzoek kan terugtrekken.	☐	☐
3. Ik begrijp dat deelname aan het onderzoek met zich meebrengt: ● een sensibiliseringssessie met een boekje en een persoonlijk audio-opname-interview met een oefenactiviteit ● Al het audiomateriaal wordt omgezet in transcripties. Alle namen in het materiaal worden gecodeerd als nummers. Na al deze anonimiseringen worden alle originele materialen met persoonlijke gegevens vernietigd.	☐	☐
4. Ik begrijp dat ik geen vergoeding krijg voor mijn deelname.	☐	☐
5. Ik begrijp dat het onderzoek eind augustus 2023 afloopt.		
B: MOGELIJKE RISICO'S VAN DEELNAME (INCLUSIEF GEGEVENSBESCHERMING)		
6. Ik begrijp dat deelname aan het onderzoek het risico van mogelijke mentale ongemakken met zich meebrengt. Ik begrijp dat dit zal worden verminderd door vooraf de vragen te evalueren samen met de psychologen en het onderzoeksteam, en dat ik het recht heb om te weigeren vragen te beantwoorden en dat ik me op elk moment uit het onderzoek kan terugtrekken, zonder dat ik hiervoor een reden hoef op te geven.	☐	☐
7. Ik begrijp dat deelname aan het onderzoek ook het verzamelen van specifieke persoonlijk identificeerbare informatie (PII) met zich meebrengt, inclusief namen en bijbehorende persoonlijk identificeerbare onderzoeksgegevens (PIRD) inclusief audio-opnames met het mogelijke risico dat mijn identiteit bekend wordt, maar niet buiten het onderzoeksteam.	☐	☐
8. Ik begrijp dat de volgende stappen zullen worden ondernomen om de dreiging van een datalek te minimaliseren en mijn identiteit te beschermen in het geval van een dergelijke inbreuk: ● Al het audiomateriaal wordt omgezet in transcripties. ● Alle namen in de materialen worden gecodeerd als nummers. ● Na al deze anonimiseringen worden alle originele materialen met persoonlijke gegevens vernietigd.	☐	☐
9. Ik begrijp dat persoonlijke informatie die over mij is verzameld en waarmee ik kan worden geïdentificeerd, zoals mijn naam of mijn woonplaats, niet buiten het onderzoeksteam zal worden gedeeld.	☐	☐

VINK DE JUISTE VAKJES AAN	Ja	Geen
10. Ik begrijp dat de door mij verstrekte (identificeerbare) persoonsgegevens worden vernietigd nadat ze zijn omgezet in een geanonimiseerde versie.	☐	☐
C: C: PUBLICATIE, VERSPREIDING EN TOEPASSING VAN ONDERZOEK		
11. Ik begrijp dat na het onderzoek de niet-geïdentificeerde informatie die ik heb verstrekt zal worden gebruikt voor de analyse en het ontwerp, het rapport, de website en de afstudeertentoonstelling.	☐	☐
12. Ik ga ermee akkoord dat mijn reacties, standpunten of andere input anoniem worden geciteerd in onderzoeksresultaten.	☐	☐
D: (LANGDURIGE) OPSLAG, TOEGANG EN HERGEBRUIK VAN GEGEVENS		
13. Ik geef toestemming om de geanonimiseerde transcripties en onscherpe foto's die ik aanlever te archiveren in de One-Drive opslagplaats zodat ze gebruikt kunnen worden voor toekomstig onderzoek..	☐	☐
14. Indien relevant, voeg toe: Ik begrijp dat de toegang tot dit archief beperkt is tot de leden van het onderzoeksteam.	☐	☐

Handtekeningen

_____	_____	_____
Naam deelnemer [gedrukt]	Handtekening	Datum

Ik, als onderzoeker, heb het informatieblad nauwkeurig voorgelezen aan de potentiële deelnemer en, naar mijn beste vermogen, ervoor gezorgd dat de deelnemer begrijpt waarmee hij/zij vrijwillig instemt.

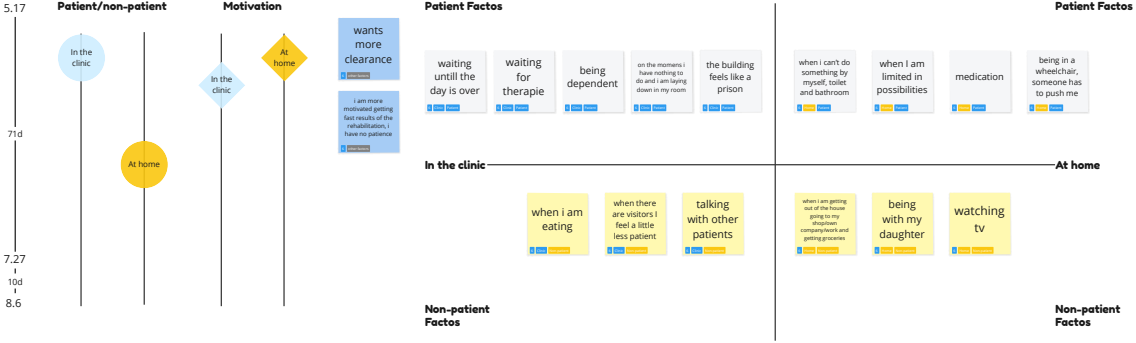
_____	_____	_____
Naam onderzoeker [gedrukt]	Handtekening	Datum

Contactgegevens voor meer informatie:

56 yrs old

Current situation

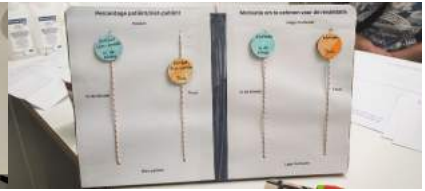
Ideal situation

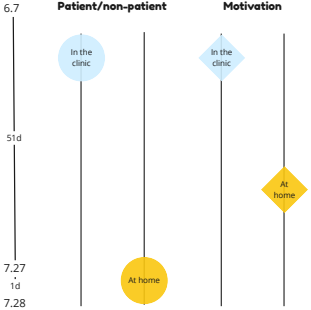


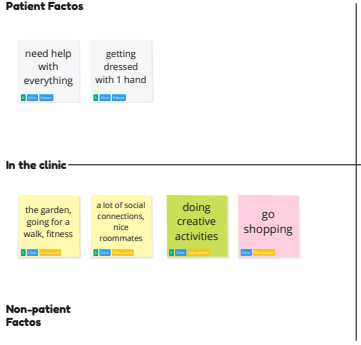
75 yrs old

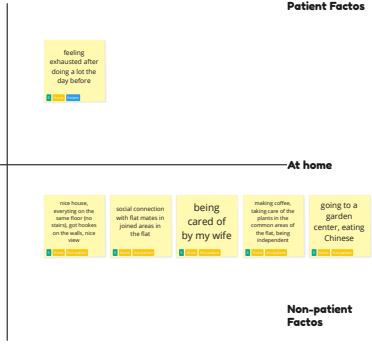
Current situation

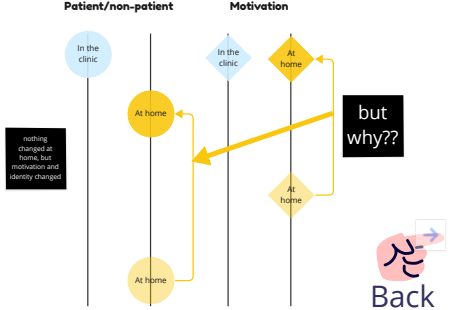
Ideal situation





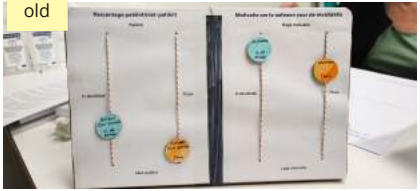




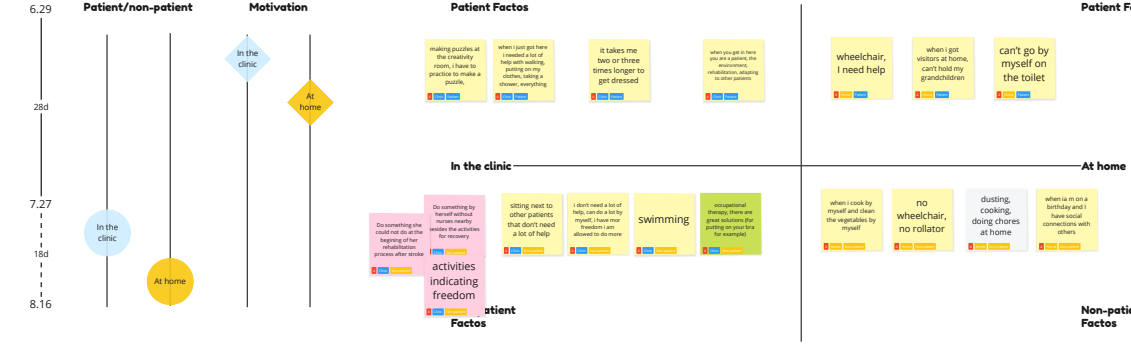


62 yrs old

Current situation



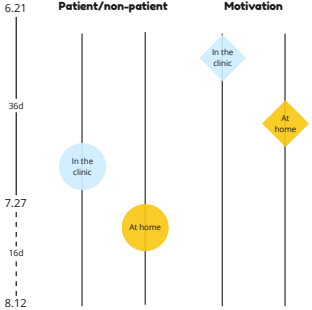
Ideal situation

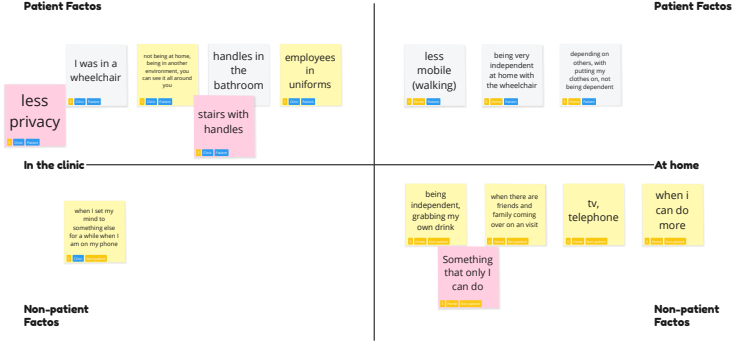


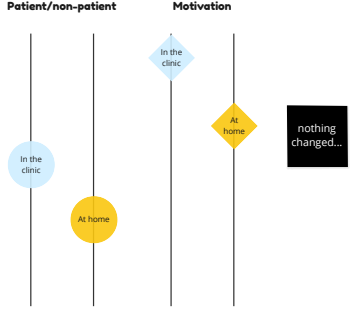
43 yrs old

Current situation

Ideal situation





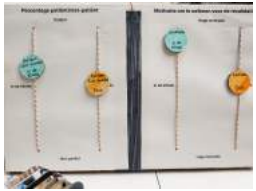


Appendix 3: Details of the interviews

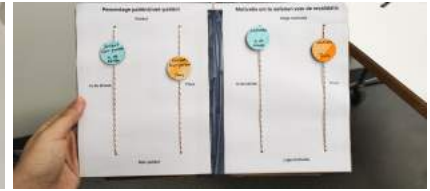
2days at home per week

62 yrs old

Current situation

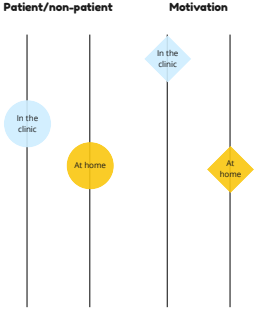


Ideal situation

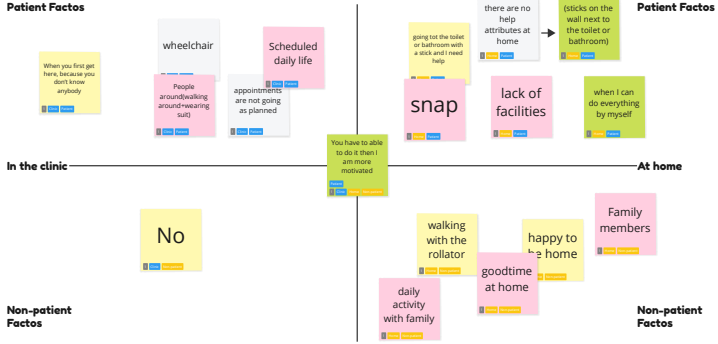


7.12
16d
7.27
20d
8.17

Patient/non-patient **Motivation**



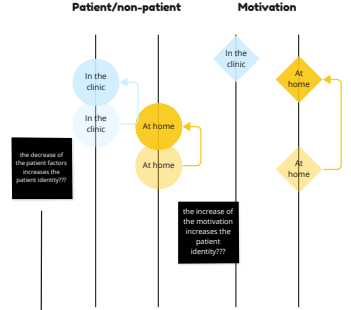
Patient Factos



Patient Factos

Non-patient Factos

Non-patient Factos



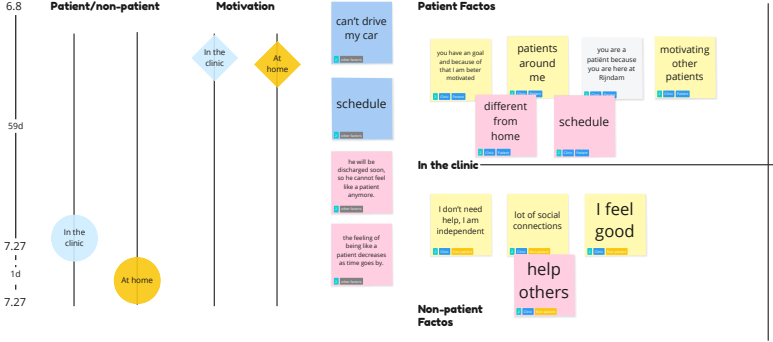
data

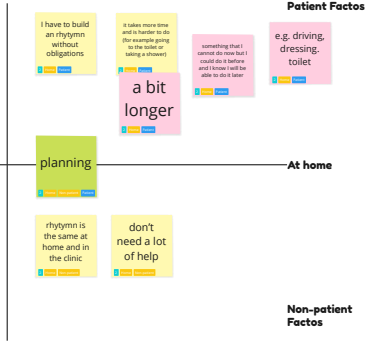
Back

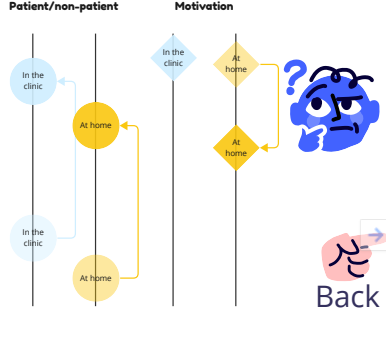
61 yrs old

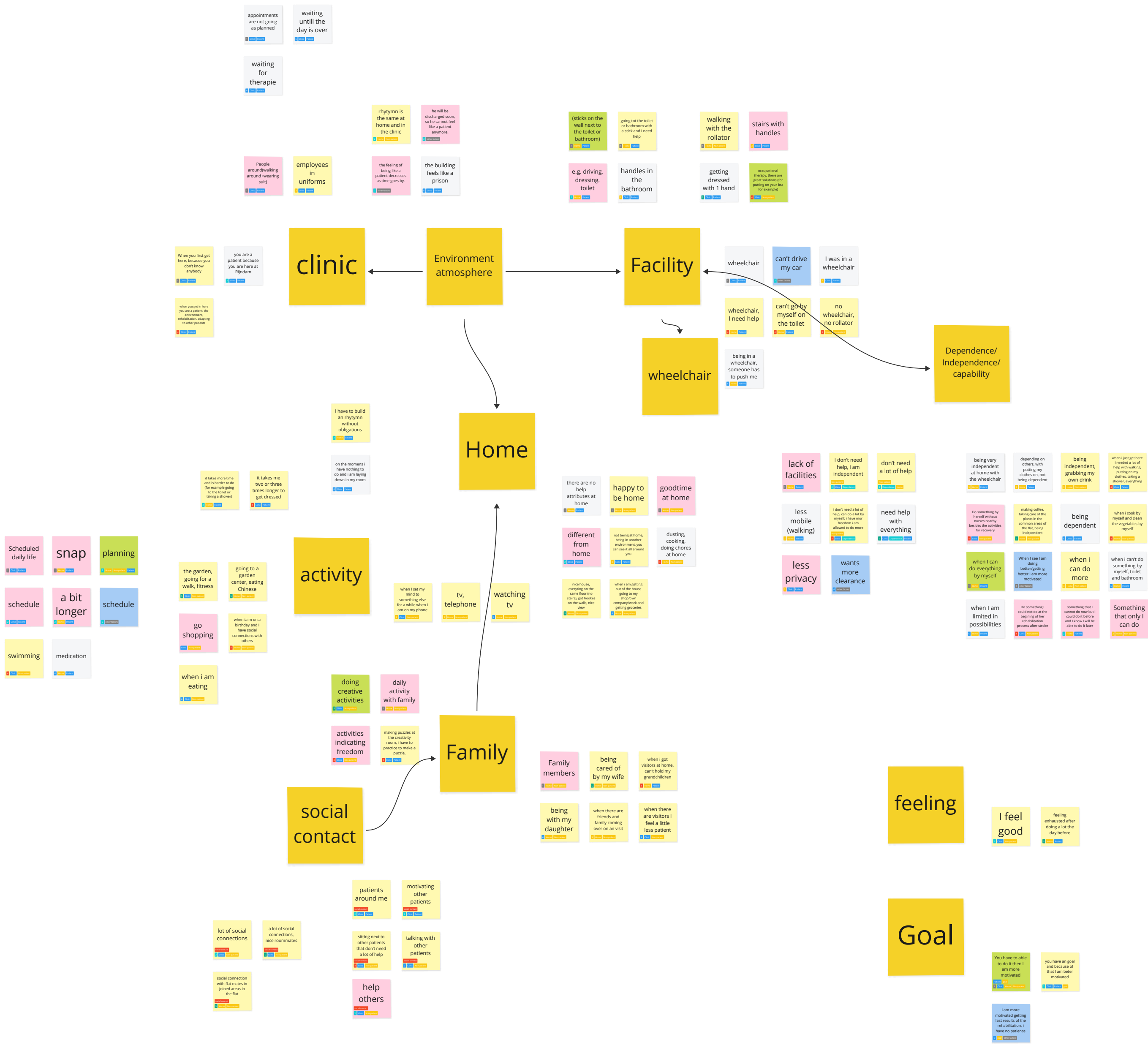
Current situation

Ideal situation









appointments are not going as planned
waiting untill the day is over
waiting for therapie
rhytymn is the same at home and in the clinic
he will be discharged soon, so he cannot feel like a patient anymore.
People around(walking around+wearing suit)
employees in uniforms
the feeling of being like a patient decreases as time goes by.
the building feels like a prison
(sticks on the wall next to the toilet or bathroom)
going tot the toilet or bathroom with a stick and I need help
walking with the rollator
stairs with handles
e.g. driving, dressing. toilet
handles in the bathroom
getting dressed with 1 hand
occupational therapy, there are great solutions (for putting on your bra for example)
When you first get here, because you don't know anybody
you are a patiënt because you are here at Rijndam
when you get in here you are a patient, the environment, rehabilitation, adapting to other patients
clinic
Environment atmosphere
Facility
wheelchair
can't drive my car
I was in a wheelchair
wheelchair, I need help
can't go by myself on the toilet
no wheelchair, no rollator
wheelchair
being in a wheelchair, someone has to push me
Dependence/ Independence/ capability
I have to build an rhytymn without obligations
on the momens i have nothing to do and i am laying down in my room
Home
it takes more time and is harder to do (for example going to the toilet or taking a shower)
it takes me two or three times longer to get dressed
there are no help attributes at home
happy to be home
goodtime at home
different from home
not being at home, being in another environment, you can see it all around you
dusting, cooking, doing chores at home
nice house, everying on the same floor (no stairs), got hookes on the walls, nice view
when i am getting out of the house going to my shop/own company/work and getting groceries
lack of facilities
I don't need help, I am independent
don't need a lot of help
less mobile (walking)
i don't need a lot of help, can do a lot by myself, i have mor freedom i am allowed to do more
need help with everything
less privacy
wants more clearance
being very independent at home with the wheelchair
depending on others, with putting my clothes on, not being dependent
being independent, grabbing my own drink
when i just got here i needed a lot of help with walking, putting on my clothes, taking a shower, everything
Do something by herself without nurses nearby besides the activities for recovery
making coffee, taking care of the plants in the common areas of the flat, being independent
being dependent
when i cook by myself and clean the vegetables by myself
when I can do everything by myself
When I see I am doing better/getting better I am more motivated
when i can do more
when i can't do something by myself, toilet and bathroom
when I am limited in possibilities
Do something I could not do at the begining of her rehabilitation process after stroke
something that I cannot do now but I could do it before and I know I will be able to do it later
Something that only I can do
Scheduled daily life
snap
planning
schedule
a bit longer
schedule
swimming
medication
the garden, going for a walk, fitness
going to a garden center, eating Chinese
activity
go shopping
when ia m on a birthday and I have social connections with others
when i am eating
when I set my mind to something else for a while when I am on my phone
tv, telephone
watching tv
doing creative activities
daily activity with family
activities indicating freedom
making puzzles at the creativity room, i have to practice to make a puzzle,
Family
Family members
being cared of by my wife
when i got visitors at home, can't hold my grandchildren
being with my daughter
when there are friends and family coming over on an visit
when there are visitors I feel a little less patient
social contact
patients around me
motivating other patients
lot of social connections
a lot of social connections, nice roommates
sitting next to other patients that don't need a lot of help
talking with other patients
social connection with flat mates in joined areas in the flat
help others
feeling
I feel good
feeling exhausted after doing a lot the day before
Goal
You have to able to do it then I am more motivated
you have an goal and because of that I am beter motivated
i am more motivated getting fast results of the rehabilitation, i have no patience

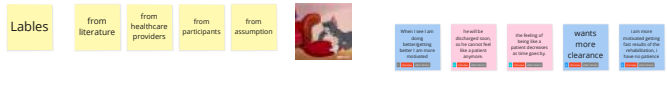
Appendix 5: Analysis board

at the clinic

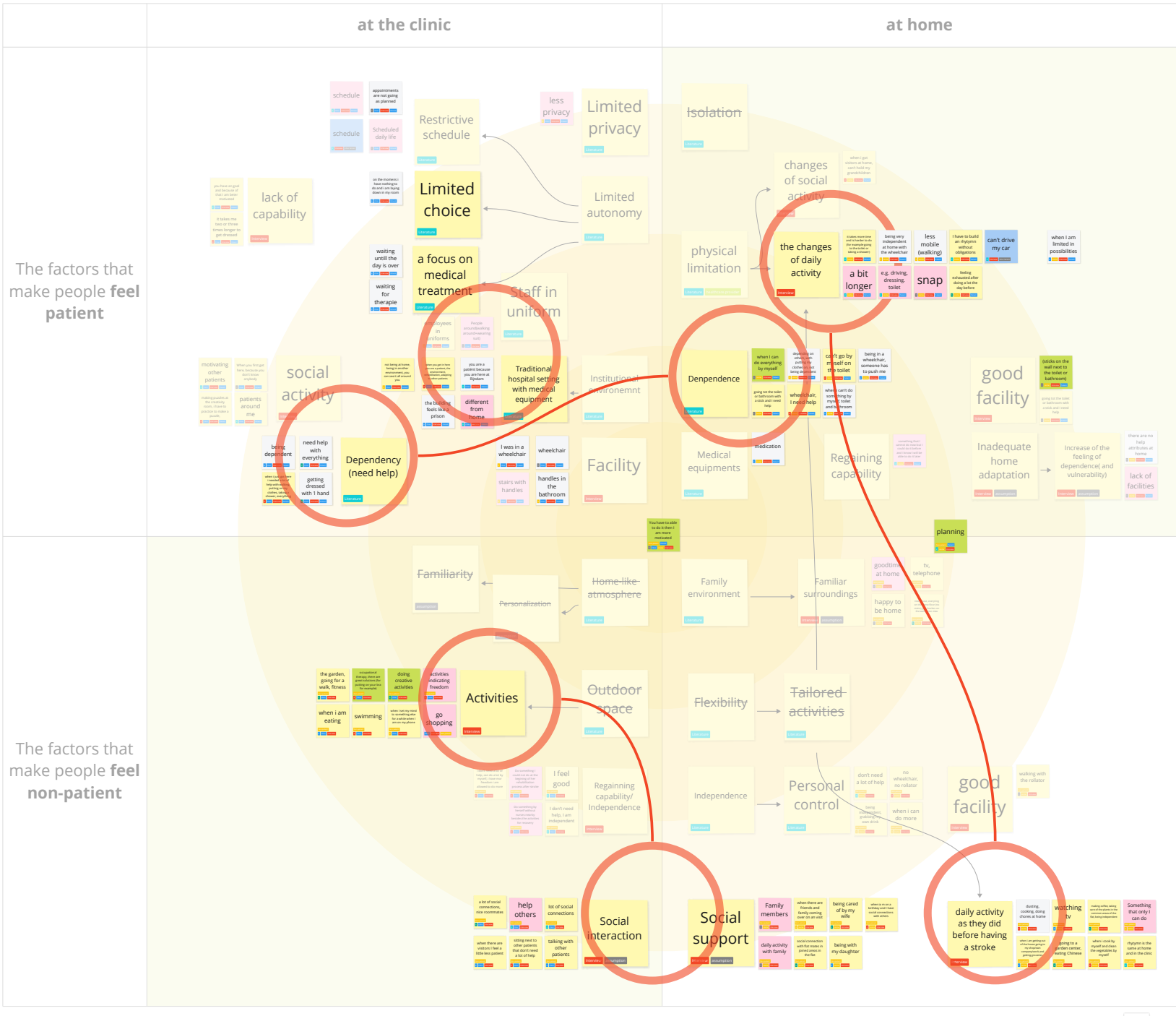
at home

The factors that make people **feel patient**

The factors that make people **feel non-patient**



Environment factors and patient identity



Appendix 6: Evaluation Scripts - ver 5.0

Kang's graduation project research:
Research the identity-related factors to increase stroke survivors' motivation for rehabilitation
Tel:
Email:

Supervisory team member:
Valentijn, Jos, and Samantha

Faculty of Industrial Design Engineering
Delft University of Technology (TU Delft)

Greeting

Hello, Mr./Ms [Name]! Thanks for participating in this project, collaborating with TU Delft and Rijndam.
Goedendag, meneer/mevrouw [naam]! Hartelijk dank voor uw betrokkenheid bij dit project, een samenwerking tussen TU Delft en Rijndam.

Project Introduction

This project aims at increasing post-stroke patients' motivation to do rehabilitation by improving general well-being. Based on the previous research and interviews, we found some possible approaches to achieve our goal. Through this interview, we will find out whether those possibilities can work in your context, which would be helpful for us to do the final design and test.
Met dit project willen we kijken of patienten kunnen helpen met het volhouden van het revalidatie traject. n. In eerdere studies en gesprekken hebben we verschillende ideeën hiervoor bedacht. Hieruit is 1 idee naar voren gekomen, dat we nu graag aan u, als expert, willen voorleggen.

The outcome of the project will come out around the end of October, and the final result would be used in a PhD project, which might be implemented into practice in the future.
Eind oktober zullen we de resultaten van het project delen. Het uiteindelijke resultaat zal onderdeel zijn van een promotieonderzoek, dat later hopelijk in de praktijk toegepast kan worden.

Progress of the Interview

The interview has 11 questions, and you can use these sliders to answer most of the questions and explain why you think like this if you want. In the first part, we will ask you to do an exercise and ask you some questions based on the exercise; in the second part, we will show some concepts, and ask you what you think about the ideas.

Het interview bestaat uit elf vragen. Om de vragen makkelijk te beantwoorden hebben we schuifregelaars gemaakt.. Daarnaast kunt u ook uitleggen waarom u voor een bepaald antwoord hebt gekozen. In het eerste deel verzoeken wij u om een oefening uit te voeren en stellen wij u enkele vragen gebaseerd op deze oefening. In het tweede deel leggen we u een paar ideeen voor om uw mening over te geven. n.

During the interview, you can stop whenever you want to, I can 100% understand that.
Wanneer u het wilt, kunt u om wat voor reden dan ook, op ieder moment het interview stoppen.
Before we start the interview, there is an important thing you need to keep in mind. You're the expert in your experience, and as a researcher, I'm here to learn from you. Please feel free to say anything you want to say.
Tenslotte alvast dank dat u mee wilt doen. Uw ervaringen en meningen als expert in revalidatie is heel belangrijk om de revalidatie voor de toekomst te verbeteren.

Questions

1. [To measure the current patient/non-patient identity] How much do you feel you are a patient or not like a patient right now? You can use the sliders to measure your feelings. (Use a slider to measure the sense of achievement operated by the interviewer.)
   Voelt u zich op dit moment als een patiënt, of juist meer als een niet-patient? Gebruik de schuifregelaar om aan te geven hoe u zich voelt. U hoeft niet te kiezen tussen helemaal patient of helemaal niet-patient maar kunt er ook ergens tussenin zitten.

   Patient **Niet-patiënt**

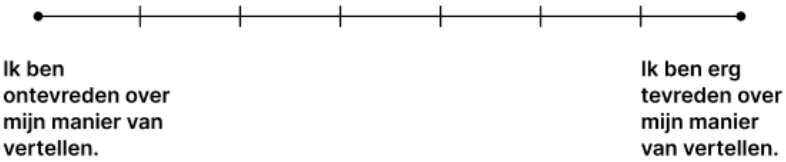
2. [To encourage participants to share a story stepping into the context] Here are some cards with different topics. Could you please pick a topic that you are interested in? What memory does this topic remind you and could you please share your story in 1 minute? (We can say 1 min, but it is fine if they spend 2 mins. We need to interrupt if they cannot finish within 2 minutes.)
   Ik heb hier enkele kaarten met diverse thema's. Zou u een thema kunnen kiezen dat u aanspreekt? Welke herinnering roept dit thema bij u op of waarom spreekt dit thema u aan?Kunt u hierover iets vertellen?

   (See Appendix2)

3. [To measure the current patient/non-patient identity to see whether this non-patient activity can increase the non-patient identity] And now after sharing this memory. Does this change how you feel about the identity you reported?
   Voelt u zich na het vertellen van deze herinneringanders over de identiteit die u eerder hebt aangegeven? Kunt u nog eens aangeven hoe u zich nu voelt tussen patient en niet-patient?

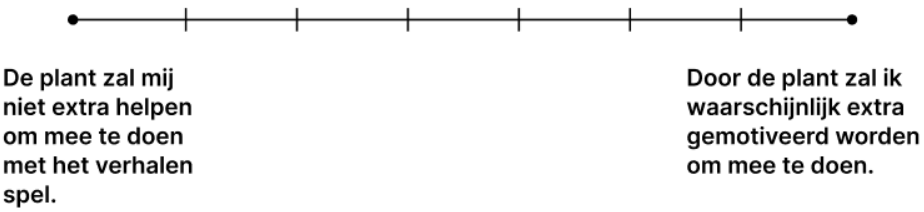
4. [To let participants be aware of their unaffected capabilities, speaking] How much satisfaction do you have with the storytelling skills that you showed in the last question?
   Lukte het goed om iets te vertellen over de kaartjes? Bent u tevreden hierover?



5. Het delen, vertellen en luisteren naar verhalen is een goede oefening. Met wie zou u zoiets willen doen? Meerdere antwoorden zijn mogelijk.
   a. met andere patienten,
   b. met revalidatie artsen
   c. met familie/ vrienden.
6. Stel dat u tijdens de revalidatie deel uitmaakt van een online groepje \ van 3-5 personen die verhalen delen. Hoevaak zou u dan een verhaal willen delen of ernaar willen luisteren?
   a. iedere dag
   b. iedere 2 dagen
   c. eens per week
   d. ik zou hieraan niet willen meedoen.
7. Dit vertel concept zou gebruikt kunnen worden tijdens de revalidatie bij Rijndam, thuis of in allebei de situaties. Wat zou uw voorkeur hebben:
   a. tijdens revalidatie bij Rijndam
   b. na de revalidatie bij Rijndam (tijdens de revalidatie thuis)
   c. zowel tijdens als na de revalidatie bij Rijndam als bij de revalidatie thuis.
8. [To identify the most attractive topics both in talk and listening] If you're asked to participate in the community, what type of topics would you be interested in? Could you please pick up three cards with topics that attract you most to talk? Could you also provide topics that you're interested in, which you want to share your story and also listen to others' stories?
   Als u wordt uitgenodigd om deel te nemen aan een zo'n vertel groep, in welke soort onderwerpen zou u geïnteresseerd zijn? Kunt u een paar onderwerpen noemen? En kunt u drie kaarten kiezen met onderwerpen die u graag bespreekt?
9. [To measure how much this activity can impact participants' motivation in rehabilitation] If you participated in an online story-sharing group as mentioned, how much do you believe this activity would boost your motivation to undergo rehabilitation at home?

Wanneer u zou deelnemen aan een online groep waarin verhalen worden gedeeld, denkt u dan dat dit uw motivatie zou versterken om thuis te revalideren?

10. [To evaluate the value of the external reward system] Now, you are given a plant. When you share stories, leave comments or receive likes from others, you will get credits, and you can use these credits to water your plant. The more you water it, the more it can grow. And you can also view other group mates' plants. Do you think this growing plant would motivate you to share stories and participate in the sharing activity or do you think the plant is not necessary?
    Aan het verhalen concept willen we ook een beloning toevoegen in de vorm van een (virtuele) plant die u kunt verzorgen . . Door verhalen te delen, opmerkingen achter te laten of likes van anderen te ontvangen, verdient u credits waarmee u uw plant water kunt geven. Hoe meer water u geeft, des te meer kan de plant groeien. Tevens heeft u de mogelijkheid om de planten van andere groepsleden te bekijken. Denkt u dat dat deze groeiende plant u zal aansporen om verhalen te delen en deel te nemen aan deze activiteit?

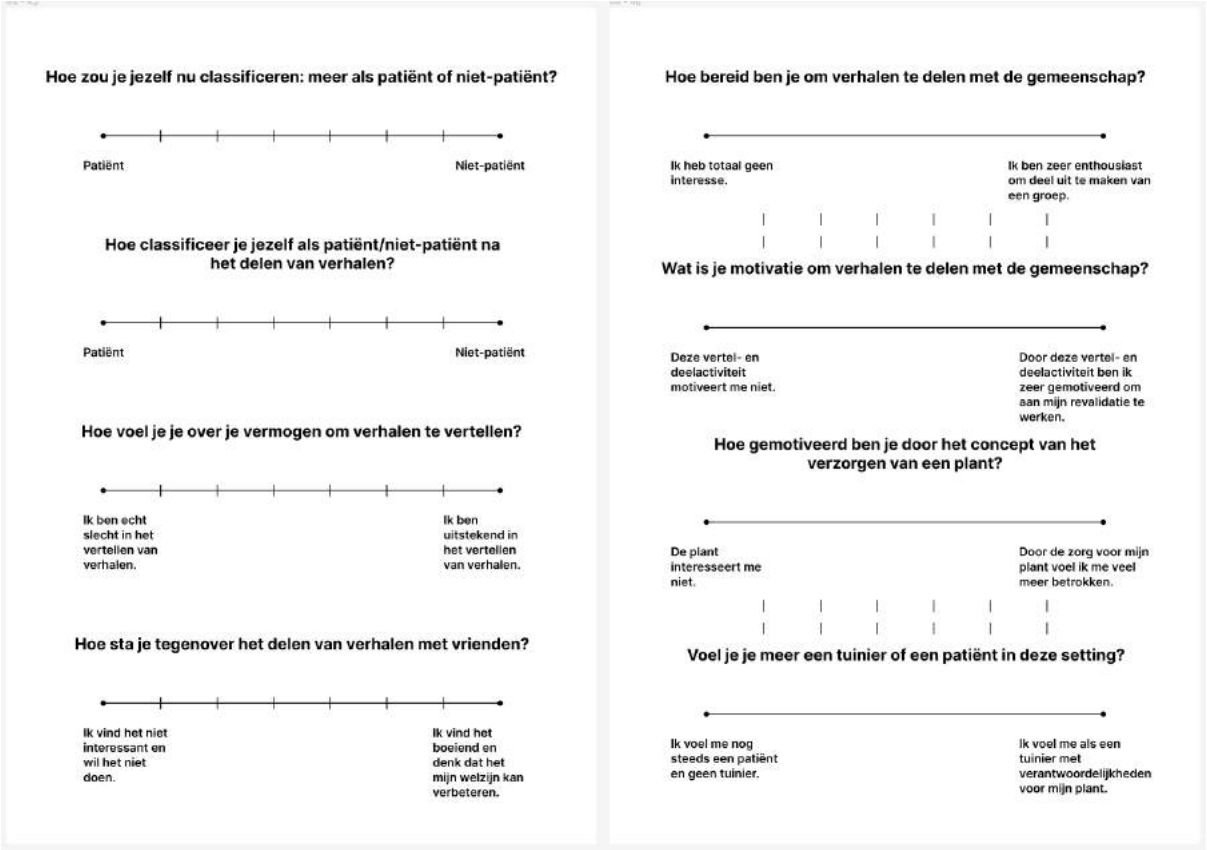


11. [Towards Goal 4, to evaluate whether they can feel another identity] Let's think about the feeling of being like a gardener or not. How much do you feel you are a gardener in this setting where by sharing a story you take care of a plant?
    Laten we nadenken over het gevoel om een tuinman te zijn in deze omgeving waar u door het delen van een verhaal een plant verzorgt. In welke mate voelt u zich een tuinman in deze context?

End Greeting

That's all the questions! Thanks for your participation! Do you have any questions? Good luck with your rehabilitation!
Dat zijn alle vragen! Bedankt voor uw deelname! Heeft u verder nog vragen of wilt u nog iets delen over het vertelconcept?

Appendix 1 Sliders



Appendix 2 Topics Cards

DESIGN FOR our future

TU Delft

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: Kang
initials: W. given name: Weiwei
student number: 5585244
street & no.:
zipcode & city:
country:
phone:
email:

Your master programme (only select the options that apply to you):

IDE master(s): ( ) IPD ( ) DfI ( ) SPD
2nd non-IDE master:
individual programme: 15 - 03 - 2023 (give date of approval)
honours programme: ( ) Honours Programme Master
specialisation / annotation: (★) Medisign
( ) Tech. in Sustainable Design
( ) Entrepeneurship

SUPERVISORY TEAM **

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

** chair: Valentijn Visch dept. / section: DA
** mentor: Jos Kraal dept. / section: AED
2nd mentor: Samantha Orozco Carvallo
organisation: Erasmus MC
city: Rotterdam country: the Netherlands

comments (optional): The project came from a PhD project of Samantha's, a PhD candidate co-educated by TU Delft and Erasmus MC.

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 _____ date - - signature _____

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: _____ EC

Of which, taking the conditional requirements into account, can be part of the exam programme 0 EC

List of electives obtained before the third semester without approval of the BoE

( ) YES all 1st year master courses passed

( ) NO missing 1st year master courses are:

name _____ date - - signature _____

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 _____ date - - signature _____

Initials & Name W. Kang Student number 5585244

Title of Project Play the self-identity to increase stroke survivors' motivation for rehabilitation

Play the self-identity to increase stroke survivors' motivation for rehabilitat 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 08 - 03 - 2023 30 - 08 - 2023 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, ...).

According to the Dutch Stroke Foundation (Hartstichting), stroke affects around 41,000 people in the Netherlands annually, which makes stroke one of the most common causes of death and disability in the country. A stroke occurs when the blood supply to the brain is interrupted or reduced, which can lead to brain damage or death. Those brain injuries might lead to various effects, such as weakness or paralysis on one side of the body, problems with attention or memory, troubles with communication and dealing with sensory information, and so on (the National Stroke Association). Stroke survivors should return home after several weeks of treatment, and they need transition care during this period which refers to the coordinated and multidisciplinary approach to the care of stroke patients during the transition from hospital to home or another care setting (Broderick, 2015). The long-term effects mentioned before directly lead to barriers when they return home, try to return to their everyday life, and gain enough motivation to do the rehabilitation. Those barriers refer to the shock of a stroke interrupting a normal day, the transition to an unfamiliar home, uncertainty, understanding a new self of self, and adjusting to a new sense of self (Connolly & Mahoney, 2018). In this case, exploring the possible interventions is imperative to support them in dealing with those barriers.

Under this background, we assume that "a sense of self", which interplay with the identity influencing people's behaviours (Oyserman, 2007), could be one of the focuses of the solution. Generally speaking, people have multiple identities. With the interplay of the features of the environment and what comes to people's minds about who they are, the features of the self which become accessible during this progress will influence people's motivation (Oyserman, 2015). Based on these theories, we can speculate that self-identity, which refers to an individual's subjective sense of who they are (McLeod, 2019), will change due to the changes in the context. And we can also speculate that as part of general people, post-stroke patients' motivation is related to their different context-specific self-identities. In this case, we regard exploring design solutions to influence motivation by adjusting contextual self-identities as a good opportunity.

As the critical point that influences accessible features of the self and motivation (Oyserman, 2015), the most related feature of the environment, in my assumption, could be the people around patients, the physical rehabilitation environment, and the tasks that they need to do in their daily life. Here is the stakeholder map, including the most related stakeholders from the clinic environment to the family environment. In the early stage, stroke survivors are still in the clinic environments. The stakeholders want patients to have a better rehabilitation experience. In the latter stage of the transition situation, the stroke survivors are in the home-care environment where the family caregivers are there living together with the patients. They want to increase patients' motivation to do the rehabilitation. Together with the stakeholders, we assume that the physical environment around the patients and the tasks they need to do in the two environments also influence their contextual self-identities. Overall, these two pictures work as a part of the assumption map, helping me step into patients' shoes.

This project's foremost opportunity is that people need an interesting transition tool to help them smoothly and make them feel better to enhance the rehabilitation process since having a stroke is already terrible for them.

Furthermore, the main limitation of this project is the language barrier, such as Aphasia. Since the target group is those who have survived having a stroke, it is not easy to communicate with them as efficiently as ordinary people. I need to translate all the materials into an English version since I am not a dutch-speaker.

space available for images / figures on next page

introduction (continued): space for images

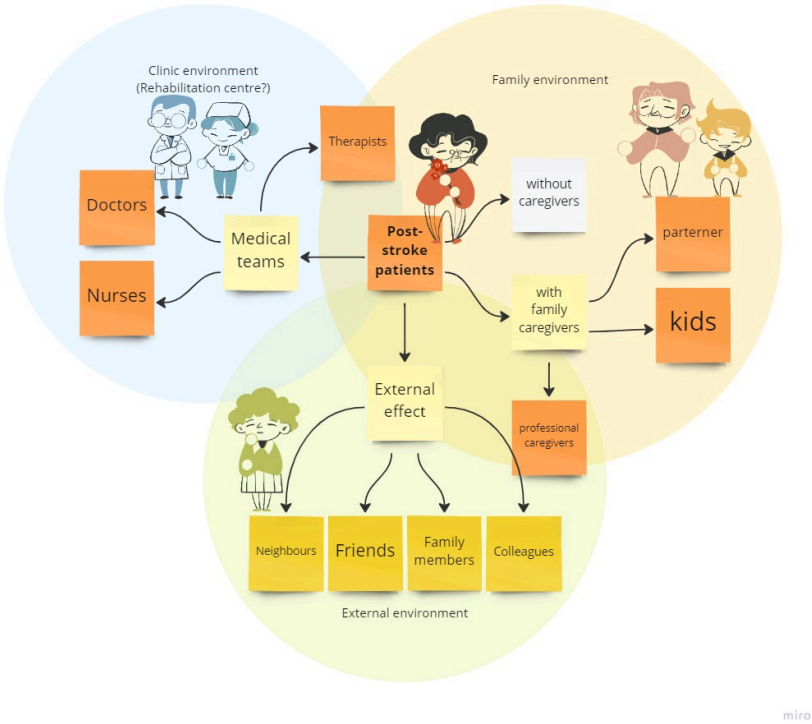


image / figure 1: The stakeholder map.

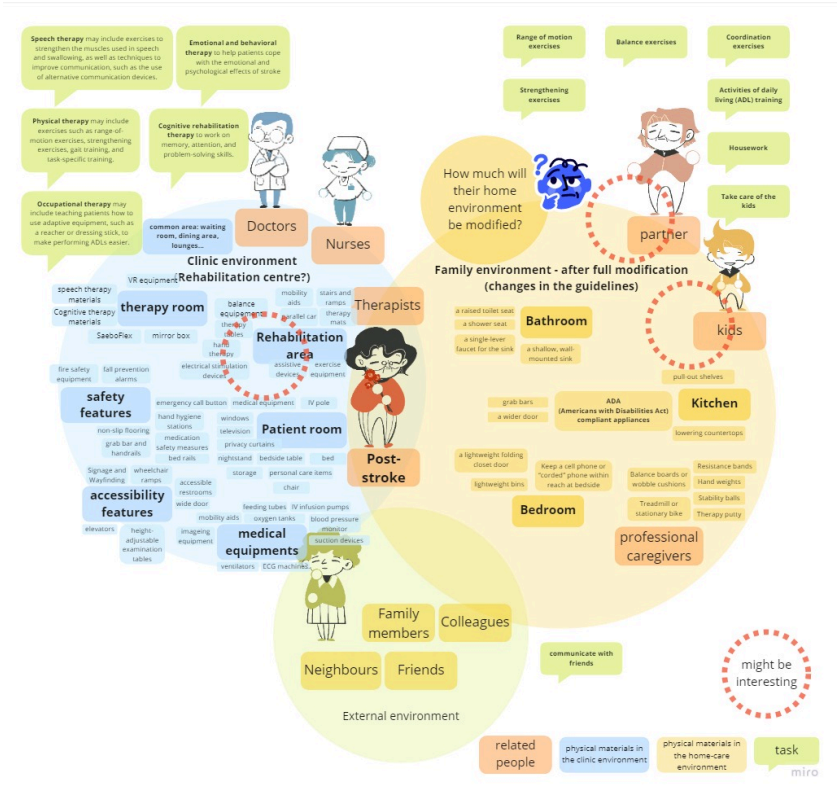


image / figure 2: The Assumption Map

Initials & Name _____ Student number _____

Title of Project _____

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.

Transitional care aims to streamline the transition of stroke patients from hospital care to home care, enabling them to reintegrate into the social environment for continued rehabilitation. This approach also seeks to support family caregivers by alleviating their caregiving responsibilities (Cameron et al., 2016). In this case, we assume that the interventions in this vital phase will help increase patients' motivation to do home rehabilitation.

There are scattered data on how interactions and social integration can shape an individual's sense of self or how psychosocial concepts such as social support, autonomy, and hope, may affect this phenomenon as patients progress through rehabilitation (Hole et al., 2014).

At the same time, as mentioned in the introduction, contextual self-identity might influence people's motivation while being influenced by the environment at the same time.

Research on self-identity shifting with context shifting might be helpful to increase patients' motivation to do the rehabilitation. The research will start by identifying the target group's self-identity in the clinic-care environment and finding out what kinds of self-identity would be helpful for them to keep doing rehabilitation when they come back home. After that, the student needs to research what kinds of intervention will work in which environment, helping patients shape an ideal self-identity.

In this case, as a mater-student graduation project, the main goal is to identify the self-identity changes during the transition period to support the former project. This project will mainly focus on researching post-stroke patients' cognitive aspects and developing the design outcomes.

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.

The core assignment of this project is to explore the potential solutions to increase the post-stroke patients' motivation to do rehabilitation when they come back home from the clinic by researching and exploring the self-identity shifting domains. The design outcome probably will be an interactive intervention service in collaboration with nurses and caregivers which will enhance patients' motivation.

Stroke survivors experience various barriers that arise from physical, psychological, and social aspects during different phases when they transition from clinic to home. During this project, I will try to find out:

(in the research phase)
- What are the differences between the self-identity when they're at the clinic and at home?
- What causes those differences? What elements influence them?
- How do the two contextual-specific identities influence, both positive and negative, the motivation for rehabilitation behaviours?

(in the design phase)
- Does it work if they play the father/grandmother's role at the clinic and play as patient's role at home? In the clinic environment, they do have the objective identity of being the patients. If they role-play as the father/grandmother, they will have two identities at the same time which might be helpful for them to get used to this situation. After they return home, they will still have two identities if they play as patients at home, which means they will have the identities as same as when they're in the clinic. If they get used to this situation while doing the rehabilitation at the clinic, they might quickly get used to doing rehabilitation at home, just as they did at the clinic.
- What kinds of design elements will support shaping the ideal self-identity for rehabilitation?

Initials & Name _____ Student number _____

Title of Project _____

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.

start date 8 - 3 - 2023 30 - 8 - 2023 end date

four days a week (30EC, 25 weeks)

Phase																														
	Date	2-15	2-22	3-1	3-8	3-15	3-22	3-29	4-5	4-12	4-19	4-26	5-3	5-10	5-17	5-24	5-31	6-7	6-14	6-21	6-28	7-5	7-12	7-19	7-26	8-2	8-9	8-16	8-23	8-30
	Calendar week	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
	Project week	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	-	13	14	15	16	17	18	19	20	21	22	23	24	25
Scoping	Preparation	-	-	-																										
	kick-off meeting				-																									
	Literature	-	-	-	-	-	-					-								-				-			-			
	Analyse the methodology				-																									
Research	Ethical Approval						-	-	-																					
	Interview plan						-	-	-																					
	Recruitment									-	-																			
	Interview (co-design)										-	-	-	-																
	Transcript												-	-	-	-														
	mid-term meeting														-															
	Reflection														-															
	Break															-														
	Data analysis																-	-												
Design	Ideation									-				-					-	-	-									
	Design										-				-					-	-	-								
	Prototype										-				-						-	-	-	-						
	Evaluation																								-	-				
Report	Review-recommandation																									-	-			
	Writing							-						-					-				-		-		-	-	-	
	green light meeting																									-				
	graduation ceremony																													-

The whole project plan is separated into four parts lasting 27 weeks with 30 working hours per week since I have elective courses simultaneously, which might spark insights.

The first part is the scoping phase aiming at scoping down the problem definition and contacting stakeholders.

The second part is the research phase aiming at finding the answer to the research questions by co-designing with the participants via interview.

The third part is the design phase to find a suitable intervention overlapping the second part since I want to use the co-design method.

The last part is the report phase aiming at generating and handing out a deliverable of the whole project, which will be done intermittently during these 27 weeks.

Initials & Name _____ Student number _____

Title of Project _____

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.

While doing this project, I have some learning goals and personal ambitions I want to achieve.

As for the learning goals, on the one hand, I want to apply some skills that I learned during my master's program; on the other hand, I want to learn something new. During the one-and-a-half learning year in DFI, I learned many skills, such as context mapping skills, health psychology, IDE methodology, design for research, communication skills, and most importantly, the skills of keeping studying and researching. I was wondering whether there would be a chance allowing me to combine and apply most of those skills. Now, it's time to try to achieve this aspiration. Besides, I want to challenge myself to communicate with people who are unable to talk and get in touch with people who really need help.

At the same time, I also want to develop new research and design skills during the project to generate my systematic design methodology.

As for my personal ambitions, I plan to have a PhD program after I graduate with my master's degree. Since I'm filled with curiosity and enthusiasm, I want to explore the design research part deeper and further in the eHealth domain, which is meaningful and valuable for society. In this case, I would like to have a research-based project which will be helpful for my future. Furthermore, I expect to reach some desired opportunities or even a dream position in the Netherlands during this period.

Besides, I also have another personal motivation. My grandfather had a stroke last year, so I want to know more about how to help him have a better quality of life.

Honestly, I had expected this opportunity to do the graduation project for a long time. It's time to start!

FINAL COMMENTS

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

Initials & Name _____ Student number _____

Title of Project _____