Universal Design 2016: Learning from the Past, Designing for the Future
H. Petrie et al. (Eds.)

doi:10.3233/978-1-61499-684-2-571

Beyond Accessible Mobility: Insights into Psychosocial Inclusivity Dimensions in Personal Transport

Yonghun LIM[1], Farnaz NICKPOUR and Joseph GIACOMIN
Department of Design, Brunel University, United Kingdom

Abstract. The importance of psychosocial aspects has been gradually recognised in the field of inclusive design. A critical review of existing literature, however, such as design, healthcare, psychology, and sociology, on psychosocial aspects of inclusivity identifies a two-fold research gap which is a limited understanding of both definition and dimensions of psychosocial inclusivity in the field of inclusive design. Such concept of psychosocial inclusivity is an inherently context-dependent and multi-faceted concept. Accordingly, a 'personal mobility' was focused on in this paper as one key context to explore psychosocial inclusivity to facilitate thorough and in-depth study of this concept. In this study, therefore, the interviews with 37 mobility-challenged participants were performed, and then the interview data was analysed by using a coding analyses to identify key psychosocial factors of inclusive design based on participants' lived-experiences.

Keywords. psychosocial inclusivity; inclusive design; accessibility; personal mobility; transport; user interviews; coding analysis

1. Introduction

Inclusive design aims to provide equal opportunities to as many people as possible without the need for specialised design or adaptation. As such, the concept of inclusive design has been recognised as a pertinent and powerful approach to design of mainstream products, environments and services within the global socio-economic context of a growing population of older adults and people with disabilities [1, 2].

However, it could be argued that the concept of inclusive design is yet to be holistically explored and thoroughly applied; the conventional focus of design for inclusion so far has been primarily on 'physical' aspects of inclusion: mainly accessibility, functionality and usability [3]. The existing policies and applications in the developed countries for example, set up by policy makers and applied by designers, seem to mainly consider improving the technology and infrastructure based on physical aspects [4]. This conventional imbalanced focus on physicality of the experience in inclusive design studies has been seen to require additional enhancement and an evaluation for better inclusivity [5, 6, 7, 8, 9, 10, 11]. The need to explore and apply inclusive design beyond physical is becoming ever more significant in a world where concepts such as meaning-centred design [12], human-centred design [13, 14],

[1] Corresponding Author, MCST 361, Michael Sterling Building, Brunel University London, Uxbridge, UB8 3PH, United Kingdom; E-mail: yong.lim@brunel.ac.uk

experience design [15, 16, 17], and emotional design [18] are gaining increasing prominence.

A critical review of existing literature on the non-physical aspects of inclusivity identifies a two-fold research gap; a lack of both definition and dimensions of non-physical inclusion in design [3, 4]. In this paper, these non-physical dimensions of inclusion e.g. psychological and social aspects, are referred to as psychosocial aspects. The concept of psychosocial inclusivity is an inherently multi-faceted and context-dependent concept. Thus, in order to avoid generalisation and to facilitate in-depth and rigorous study of this concept, this study focuses on 'mobility' as one key context for investigating psychosocial inclusivity. Thus, the study focuses on a group of 'mobility-challenged' participants defined as "someone whose mobility has been challenged due to age, physical or mental impairment, or an external physical condition." [9].

According to Department for Work and Pensions [20], 55 percent of the total disabled population in the UK suffers from mobility problems (6.5 million). This is compared to 2.1 million suffering from mental health, 1.7 million from hearing impairment, 1.5 million from vision impairment and 0.8 million from social or behavioural impairments. Such statistics further identify mobility as one of the most significant and widespread cases of disability in the UK, and also highlight its strong correlation with other types of impairments [20]. A mobility impairment could cause various physical and non-physical complications in both individual and social contexts, and such issues are influenced by various determinants which are cognitive, psychosocial, physical, environmental and financial [21] eventually resulting in various levels of exclusion on a physical or non-physical level. Transport disadvantages, for example, give rise to socio-economic exclusions such as limited economic and social opportunities to households and individuals [22], which could also lead into further psychological isolation. Building on the significance and scale of mobility-related disabilities, the mobility-challenged group was selected as a potential case to further investigate and identify psychosocial aspects of inclusive design.

Therefore, the aim of the study presented in this paper was established to explore psychosocial aspects of inclusive design based on the context of personal mobility using the following steps:

- to identify the key of psychosocial inclusivity in the context of personal mobility
- to develop the initial framework for psychosocial aspects in inclusive design using the above identified factors

2. Data collection and analysis

2.1. Data collection method

2.1.1. Sampling

The interview study was designed for users of the mobility scheme, which supports people with mobility related disabilities to lease mobility equipment such as a powered wheelchair, scooter or an adapted car. For the final selection of the interviewees, the purposeful sampling approach, which is one of the common approaches for qualitative research sampling [23, 24] was used. With this sampling approach, the 37 samples were selected based on the appropriate mixture of age groups, genders and types of mobility issues to cover various potential perspectives of psychosocial aspects in real world based

on their experiences. This selection of interviewees provided various perspectives regarding their physical and psychosocial issues.

2.1.2. Questionnaire design

The interview was designed to ask about mobility scheme users' physical and psychosocial related issues in personal mobility to identify key psychosocial factors based on their lived experiences. For this goal, the understanding of context, meaning and needs, and possible future of personal mobility was needed. The questionnaire was created based on mix of principal tools to understand these three criteria. These criteria and the tools raise potential possibility of responses to cover various psychosocial aspects (See table 1).

Table 1. Mix of principal tools for design of the questionnaire according to the three main purposes

Context	Meaning and needs	Possible future
A.E.I.O.U framework [25]	- Ethnographic framework [26] - 5Ws and H framework - Semantic differential framework [27]	Back casting [28]

2.2. Data analysis method

Braun and Clarke [29] suggested the six phases of analysis, which are familiarization oneself with one's data; generating initial codes; searching for themes; reviewing themes; defining and naming themes and producing the report (See appendix A). Following this process, the interview data were collected and analysed by an independent researcher via use of coding analysis. After this individual analysis, four other researchers participated to analyse the interview data to verify the single coding analysis. This multiple coding process enables an individual researcher to have multiple perspectives from other researchers about the data [30].

2.2.1. Creating an initial structure for coding analysis

The ten interview transcripts were carefully selected from the whole selection of samples and analysed as a familiarisation stage. The criteria for selecting ten interviewees were age, gender and type of mobility circumstance such as adapted-car users, wheelchair users and scooter users. These criteria represent and cover the 27 other interviewees, and provide an appropriate initial analysis structure for the later stage. The initial coding analysis was conducted in the following steps.

For the first step, key words and phrases were identified by process coding, which is also called action coding [31]. The process coding is an effective method to summarise the interviewees' transcripts as the first step of coding analysis [31]. The key expressions and terms from the raw data were summarised as themes which were retained in original forms during this coding to avoid loss of any potential key data. In this stage, as many themes as possible were created based on the meaning or implication in the responses. This is because each element, which was identified from the interviews, could have crucial psychosocial factors although some elements did not fit other themes or appeared less often compared to others. Hence, a comprehensive coding structure for psychosocial factors in personal mobility was created at the end of this stage.

The results from the above stage were reviewed and refined within Nvivo10, which provides multiple combinational matrixes of identifies themes [32]. The re-

categorisations of the identified themes were tried several times to explore different perspectives of the coding. The themes and categories were also renamed as occasions. Hence, a refined coding structure was created from the above process.

The two rounds of workshops were conducted with four experienced researchers to ensure rigour of the results from the previous analysis. At the first round, the four researchers were given set of cards that each card contains key phrases or paragraphs captured from the interviewees' responses. The researchers reviewed each card carefully and then categorised based on their own coding structure which means each researcher could have subjective perspectives about the data.

The initial structures from each researcher were reviewed and synthesised through the comparative analysis. There were several overlapping themes, such as social factors, well-being, emotional, mental and equipment related factors, and some distinct themes. All of these themes were combined and used to create a cards set for the second round. The researchers re-categorised or renamed the cards based on their own coding structures.

For the final stage, the results from the individual researcher and the results from the workshop were reviewed and synthesised through the comparative analysis. The most common themes between those results were emotions, well-being, social factors, equipment and economic related themes. Finally, a working structure for psychosocial aspects in personal mobility was created. The working structure was used in the next session to analyse the rest of interviews.

2.2.2. Analysis results for psychosocial aspects in personal mobility

Table 2. Analysis results from the interviews with 37 mobility-challenged people

Main themes	**Elements**		
Individual background	Health condition Mobility	Experience Daily tasks	Housing style
Facilities and equipment	Equipment (e.g. car, framework, stick, scooter, wheelchair) Public transportations	Public facilities (e.g. building, park, parking area, shopping centre)	Facilities at home Appearance of equipment Technology
Usability	Capacity Efficiency Adaptability Functionality	Diversity Convenience Movement radius Frequency	Difficulty Practicality Durability
Accessibility			
Inclusivity	Equal life opportunity		
Financial factors	Extra cost	Financial issues	
Support and service	Family support Financial support	Social service Other public service	Support from surrounding people
Mental factors	Independence Information Conscious	Security Safety	Reliance Circumspection
Emotional factors	Anxiety Comfort Confidence Embarrassment	Empowerment Freedom Frustration Happiness	Loneliness Satisfaction Stress Vulnerability
Social factors	Social awareness Social attitude	Social isolation Social engagement	Social participation

The rest of the interview transcripts were reviewed and analysed by using the working structure created in the previous section. Each transcript was coded line by line using NVivo 10. Any terms and phrases which contain psychosocial related aspects were categorised into the working structure. This analysis process is similar to the second step

of the previous section, and the main goal of this stage is to identify any new themes and categories which were not identified in the previous section. After this process, the analysis results for psychosocial aspects in personal mobility was created (See table 2). There are also some examples of comments from the interviewees according to the identified themes (See table 3).

Table 3. Comments from the interviews based on the identified main themes in working structure. As the comments show, the main themes reflect the issues mobility-challenged people are facing in their life.

Main themes	Comments
Individual background	"Well my mobility obviously is very limited. I am a 65-year-old grandmother, wife and mother obviously. I walk with a crutch because the disease I have is really debilitating in my legs, muscle wasting and not […] My balance isn't very good."
Facilities and equipment	"I think from the type of equipment that's available I think we've got the best of that. Some different types of equipment would be good, for example my daughter's got an indoor wheelchair and it would be great if the side support dropped down on it so I could transfer her easier instead of having to lift her up and over it. But other than that most of the equipment that we've got does what it says on the tin."
Usability	"A car that has side access, a sliding door that you can get in from the side and probably a boot that you can get to in the back so that can be separate to where you're sitting if you don't need a wheelchair while you're driving, that would be good."
Accessibility	"[…] disabled parking spots are very limited wherever you go and you need the additional space to get a disabled person in and out of a car and also to get a wheelchair in and out of the vehicle. A lot of car parks have very very tight parking spots because they try and get as many people in as they want"
Inclusivity	"Ever since I've been able to drive I just love it. It's one of those few times when I feel I'm on a level playing field with everybody else because if I'm sat in my car on the road, on the motorway or wherever, there's no external indication that I have a disability or anything. I'm just another road user."
Financial factors	"I think finance can contribute quite a lot to mobility […] yes I would certainly say that finance does contribute to mobility."
Support and service	"My cousin, her daughter does house cleaning. She comes up, she changes my bed and does all my hoovering, and a bit of dusting. I can do a little bit of dusting, but I can't put polish on it, I just do it with a feather duster. But she does all my polishing and hoovering and that […]"
Mental factors	"I suppose you could be embarrassed about having to use equipment […] descriptive words, embarrassed, conscious, you try to normalise its use and what would […] you'd want it to be a bit more discreet, less obvious, less obtrusive"
Emotional factors	"I'm too heavier than I should be and I think there is a natural tendency for people to look at you and pass judgment perhaps if you're too big or you're young and you're in a chair or a scooter they think there's nothing wrong with you, you're taking the mickey"
Social factors	"attitudes have changed a lot for the better. But it's still not good. Disabled people are still very much seen as not second class but maybe we don't really know what to do"

3. Findings

3.1. Developed framework for psychosocial aspects in inclusive design

The analysis results for psychosocial aspects in personal mobility was proposed in the previous section. The results show the key psychosocial factors in connection with personal mobility, but these factors only cover the personal mobility related aspects. Furthermore, according to the initial framework for psychosocial aspects in inclusive design based on the literature analysis, which has done by Lim and Nickpour [4], it was clear that there are various psychosocial factors that are not identified in the interviews. In this literature analysis, the existing psychosocial aspects and its related models and

frameworks in various study areas, such as psychology; sociology; health care; and design, were collected and analysed.

With this in mind, a comparative analysis between the analysis results from the interviews and the initial framework for psychosocial aspects in inclusive design created from the literature analysis were conducted to develop the framework. There were several overlapping themes and distinct themes and they were carefully reviewed and re-categorised by meaning. Based on the results from this comparative analysis, seven psychosocial factors were identified and developed in the framework (See Figure 1). The seven factors are illustrated in Figure 1.

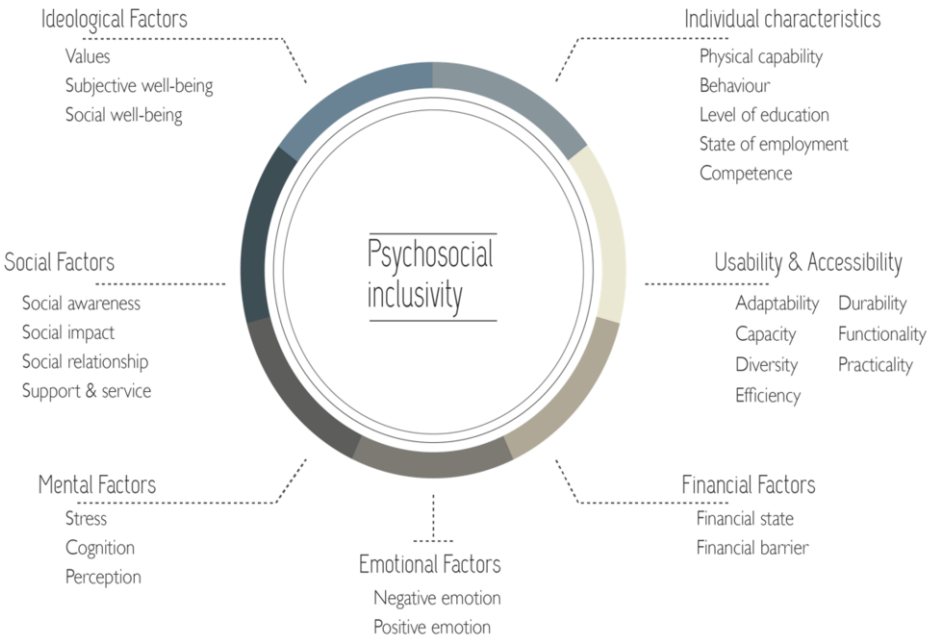

Figure 1 Synthesised framework for psychosocial aspects in inclusive design

Individual characteristics

From the results of the interviews and the literature analysis, it was clear that people face various psychosocial issues based on their personal background which includes physical capability (age, gender, functional abilities, sense of control, health condition and mobility), behaviour, level of education (skilfulness and knowledge), state of employment and competence (social functioning, expertise, problem solving, ability to participate in multiple social roles and experience). There are interrelationships between the individual characteristics and the rest of the elements in the framework. For example, the psychological or social issues several interviewees faced in their experiences were based on their own physical conditions. Therefore, individual characteristics could be important initial factors of psychosocial inclusion, and the knowledge if these factors can be used to identify the potential stakeholders and issues in inclusive design.

Usability and Accessibility

Usability and accessibility are essential factors in the concepts of inclusive design. Various usability and accessibility related factors were identified in the literature and interviews. There are various existing concepts of inclusive design, such as frameworks, principles and toolkits, which mainly focus on physical aspects including usability and accessibility related factors. The aim of this paper is to identify psychosocial aspects of inclusive design, but the identified psychosocial factors in literature and the interview have strong relationship with the factors of usability and accessibility. The key identified factors are adaptability, capacity, diversity, efficiency, durability, functionality, and practicality.

Financial factors

Main factors in this session are financial state and financial barriers. Various interviewees pointed out that their mobility and social lives are limited if they have any financial barriers. For example, assistive devices such as mobility equipment are prohibitively expensive, and it is difficult for people who need the equipment to afford it without a stable financial state. Also, people who have financial barriers seem be intimidated in their social relationships and activities according to the both the results of the literature and interviews. Some of them prefer to stay home and not have social engagement.

Emotional factors

There were various factors that are related to psychological factors in both results of the interviews and the literature analysis. The term psychological is defined as "Of, affecting, or arising in the mind; related to the mental and emotional state of a person" by Oxford dictionary. With this definition, the psychological related themes were categorised into two themes which are emotional and mental factors. In the emotional factors of the framework, negative emotion (distress, anxiety, fear, loneliness, boredom, hopelessness, embarrassment, feelings of sadness, depression, frustration, decreased psychological distress, self-esteem, and distress) and positive emotion (comfort, confidence, calming, satisfaction, thrill, enjoyment, and desires) were identified. It was clear from the literature that these emotional factors are by individuals' physical health condition and also social relationships.

Mental factors

The mental and human thought related factors were categorised in this session. The identified factors, which are stress (time pressure, trauma, chronic stress, perceived stress, and loss of control), cognitive (optimism, locus of control, confusion, health beliefs, information, predictability, empowerment, and misconception) and perception (self-consciousness, and reliance), mostly have strong relationships with social factors. There were various literatures that identify the mental issues in communities such as working environments, class rooms and social groups. People are mentally suffered by the relationship between other community members. Some of the interviewees mentioned the perceived mental related factors in their experiences such as self-consciousness and level of dependence.

Social factors

Social factors in this framework are essentially based on social interaction with others. Identified factors are social awareness (public attitude, public judgment, and discrimination), social impact (physical environment, social integration, and social changes), social relationship (social participation, social exclusion, social network, community efficacy, and corporate culture), and support and service (family support, social service and support, and financial support). These factors are highly related to

individual characteristics and psychological including emotional and mental factors. In the interview, many interviewees described their own experiences of their mobility sometimes being limited by these social factors. With these social influences, it is clear that people are not only disabled by their impairment, but they are also disabled by their own society [36].

Ideological factors

In this section, the factors that are based on people' experiences and desire were categorised. The identified ideological factors from the literature and the interviews are values, subjective well-being and social well-being. The values refer to equal life opportunities, freedom, safety, security, independence, privacy, long-term health, and meaningfulness. In literature, subjective well-being is defined as "a person's cognitive and affective evaluations of his or her life" [37], and it refers that people feel happiness and life satisfaction based on their own experiences. With this in mind, the subjective well-being in this framework contains happiness, self-esteem, self-efficacy, fulfilment of emotional demands, sense of hope, pleasure, and self-confidence. The social well-being refers to social acceptance social satisfaction, receiving emotional support, and social engagement. Ideological factors in this framework help people to have a better quality of life based on rest of factors of the framework.

3.2. Verification of the coding analysis

In qualitative research, a validation and verification of data analysis results are the one of the main consideration for researchers [29]. In this paper, the coding of the results from the interviews was used to develop the initial framework in the literature analysis. For these results, the method of thematic analysis was used several times. The coding analysis is a common and flexible method for analysing data in general qualitative research, so it is difficult for researchers to contain objective points of view due to a researcher's subjective mental model and analysing structure [29, 33, 34, 35]. With this in mind, the process of the interview data analysis was conducted by using multiple steps of coding analysis by the individual researcher and the multiple researchers to refine and verify the results. After the coding analysis, the analysed results were also carefully review step by step based on the thematic analysis checklist introduced by Braun and Clarke [29] (See appendix B) for provision of comprehensive and thorough validation.

4. Conclusion and future works

As previously mentioned in the introduction, the literature confirms an understanding of psychosocial aspects, including a clear definition and framework, is necessary for the future of inclusive design. With this, the importance of psychosocial factors in personal mobility and the developed framework for psychosocial inclusion for the personal mobility was identified in this paper. However, the framework has not yet been thoroughly proven and verified due to limited scopes of the literature and the context of mobility. The results provided only the existing psychosocial factors of literature and perspectives of mobility-challenged people as parts of psychosocial inclusion. It is difficult to cover all psychosocial situations and stakeholders of psychosocial inclusion with these studies.

Therefore, further interview and observation studies with older adults will be conducted as the next step to develop the proposed working framework for psychosocial

inclusivity. These further studies will be focused on elderly supermarket shoppers' experiences to identify any psychosocial aspects in their shopping experiences. The shopping is one of the significant life tasks that seems to have crucial and potential psychosocial aspects of senior citizens' daily life based on their lived-experiences. After these further field studies, the working framework will be verified and validated by evaluation study. Finally, a comprehensive framework for psychosocial aspects in the field of inclusive design will be proposed. Also, the framework will be an important checklist for potential users such as designers, researchers, and policy makers to consider the psychosocial aspects of inclusive design in their fields.

References

[1] Coleman, R., Clarkson, J., Dong, H, Cassim, J. *Design for inclusivity: a practical guide to accessible innovative and user-centred design*, Gower, 2007.
[2] Fletcher, V. Evolution and Trends of universal design in the USA. All design special issue on inclusive design. (2011). pp12-18
[3] Steinfeld E. Creating an inclusive environment, Trends in Universal Design. 2013:52.
[4] Lim, Y. and Nickpour, F. Inclusive design; From physical to psychosocial - a literature analysis towards a definition of psychosocial dimensions in design. In DS 80-9 Proceedings of the 20th International Conference on Engineering Design (ICED 15) Vol 9: User-Centred Design, Design of Socio-Technical systems, Milan, Italy. 2015 Jul 27-30.
[5] Frye, A. Bridging the Gap between Theory and Practice, Trends in Universal Design. 2013.
[6] Hedvall PO. I have never been universal. Trends in Universal Design. 2013.
[7] Nickpour F, Jordan PW, Dong H. Inclusive Bus Travel: A Psychosocial Approach. In Designing Inclusive Systems, Springer London, 2012 (pp. 13-22).
[8] Gaver B, Martin H. Alternatives: exploring information appliances through conceptual design proposals. InProceedings of the SIGCHI conference on Human Factors in Computing Systems 2000 Apr 1 (pp. 209-216). ACM.
[9] Demirkan H. Housing for the aging population. European Review of Aging and Physical Activity. 2007 Feb 15;4(1):33.
[10] Imrie R, Hall P. *Inclusive design: designing and developing accessible environments*. Taylor & Francis; 2003 Sep 2.
[11] Demirbilek O, Demirkan H. Involving the elderly in the design process, *Architectural Science Review* (1998) Dec 1;41(4):157-63.
[12] Verganti R. *Design driven innovation: changing the rules of competition by radically innovating what things mean*, Harvard Business Press, 2013 Dec 30.
[13] Giacomin J. What Is Human Centred Design?, *The Design Journal* (2014) Dec 1;17(4):606-23.
[14] Brown, T. *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*, Harper Collins Publishers, New York, 2009.
[15] Hassenzahl M, Diefenbach S, Göritz A. Needs, affect, and interactive products–Facets of user experience, *Interacting with computers* (2010) Sep 30;22(5):353-62.
[16] Pullman ME, Gross MA. Ability of experience design elements to elicit emotions and loyalty behaviors. *Decision Sciences* (2004) Aug 1;35(3):551-78.
[17] Hekkert P, Mostert M, Stompff G. Dancing with a machine: a case of experience-driven design. InProceedings of the 2003 international conference on Designing pleasurable products and interfaces 2003 Jun 23 (pp. 114-119). ACM.
[18] Norman DA. *Emotional design: Why we love (or hate) everyday things*. Basic books, New York, 2005.
[19] Nickpour, F. and Jordan, P.W. Inclusive bus travel in Hillingdon: Assessing accessibility. Technical Report. 2011. Brunel University, UK
[20] Department for Work and Pensions. Family Resources Survey, United Kingdom, 2013/14. Available at: https://www.gov.uk/government/statistics/family-resources-survey-financial-year-201314 (Accessed: 30 March 2016); 2015.
[21] Webber SC, Porter MM, Menec VH. Mobility in older adults: a comprehensive framework. *The Gerontologist* (2010):gnq013.
[22] Dodson J, Gleeson B, Sipe NG. Transport Disadvantage and Social Status: A Review of Literature and Methods. Australia: Urban Policy Program, Griffith University, 2004 Dec.
[23] Higginbottom GM. Sampling issues in qualitative research. *Nurse Researcher* (2004) Jul 1;12(1):7-19.

[24] Marshall MN. Sampling for qualitative research. *Family practice* (1996) Jan 1;13(6):522-6.
[25] Wasson C. *Ethnography in the field of design*. *Human organization* (2000) Dec 1;59(4):377-88.
[26] Spradley JP. *The ethnographic interview*. Waveland Press, 2016 Feb 17.
[27] Osgood CE, Suci GJ, Tannenbaum PH. *The measurement of meaning*. University of Illinois Press, 1964.
[28] Robinson JB. Unlearning and backcasting: rethinking some of the questions we ask about the future. *Technological Forecasting and Social Change* (1988) Jul 31;33(4):325-38.
[29] Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative research in psychology* (2006) Jan 1;3(2):77-101.
[30] Barry CA, Britten N, Barber N, Bradley C, Stevenson F, Using reflexivity to optimize teamwork in qualitative research. *Qualitative health research* (1999) Jan 1;9(1):26-44.
[31] Saldaña J, *The coding manual for qualitative researchers*, Sage, 2015 Nov 2.
[32] Edhlund, B, and McDougall, A. *NVivo 10 essentials*, Lulu. Com, 2012
[33] Parker I, Criteria for qualitative research in psychology, *Qualitative Research in Psychology* (2004) Jan 1;1(2):95-106.
[34] Reicher S. Against methodolatry: some comments on Elliott, Fischer, and Rennie. *British Journal of Clinical Psychology* (2000) Mar 1;39(1):1-6.
[35] Elliott R, Fischer CT, Rennie DL, Evolving guidelines for publication of qualitative research studies in psychology and related fields. *British journal of clinical psychology* (1999) Sep 1;38(3):215-29.
[36] Pullin G. *Design meets disability*. MIT press, 2009.
[37] Deiner E, Lucas RE, Oishi S. *Subjective well-being: The science of happiness and life satisfaction*. Handbook of positive psychology. 2002:63-73.

Appendix A

Table 4 "Six phases of thematic analysis" [29]

Phase	Description of the process
Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Appendix B

Table 5 "A 15 point checklist of criteria for good thematic analysis" [29]

Process	No. / Criteria	
Transcription	1.	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.
Coding	2.	Each data item has been given equal attention in the coding process.
	3.	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4.	All relevant extracts for all each theme have been collated.
	5.	Themes have been checked against each other and back to the original data set.
	6.	Themes are internally coherent, consistent, and distinctive.
Analysis	7.	Data have been analysed -/interpreted, made sense of -/rather than just paraphrased or described.
	8.	Analysis and data match each other - the extracts illustrate the analytic claims.

	9.	Analysis tells a convincing and well-organized story about the data and topic.
	10.	A good balance between analytic narrative and illustrative extracts is provided.
Overall	11.	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once - over - lightly.
Written report	12.	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13.	There is a good fit between what you claim you do, and what you show you have done - ie, described method and reported analysis are consistent.
	14.	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15.	The researcher is positioned as active in the research process; themes do not just 'emerge'.