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Designing for social transformation is greatly entangled with behaviour change processes. Research shows that integrating insights about individual behaviour and social systemic dynamics can greatly enhance the effectiveness of behavioural interventions (Davis et al., 2015; Littlecott et al., 2019; Moore et al., 2019). This study reports on our experiences (e.g., synergies and challenges) when integrating insights on individual and social systemic determinants of behaviour during a two-year co-design project. The project focussed on improving Speech Language Therapy for children (2-6y) by enhancing collaboration between parents, children with a speech disorder, and Speech and Language Therapists. The aim of the project was to develop a behaviour change intervention to support therapists and parents to work collaboratively in speech and language therapy. To do so, we applied two complementing methods in a co-design setting. To integrate behavioural insights, we applied the individual-oriented Behaviour Change Wheel (Michie et al., 2014). Parallel, the generative Sociona Tool (Van Essen et al., 2020) was used to integrate a social-systemic perspective in the design process.

During the project, the design team reflected on the application of both methods and adjusted them to enhance their design performance. Preliminary findings shed light on 1) the potential synergy between a social systemic and an individual perspective in designing for behaviour change and 2) the obstacles to integrating two methods grounded in different paradigms in a co-design process.

Introduction

Many, if not all, complex social challenges require behaviour change. To better understand how behaviour change can be supported through design in these challenges, a holistic approach is needed that embraces a complexity perspective (Boulton et al., 2015). Recent developments in behavioural science discuss the importance of social structures and their dynamics in supporting and spreading behaviour change (Zhang & Centola, 2019). A behavioural design project can potentially benefit from integrating theory about individual behaviour and social systemic dynamics, even more so if they engage people and their relationships in the design process (Van Essen et al., 2020).

However, informing the design process with theory and evidence remains challenging; theories are often seen as impenetrable (Pettersen & Boks, 2008) and are limited in their applicability (Hermsen, Renes & Frost, 2014). Moreover, a range of theory-driven behavioural methods and frameworks suffer from a focus on individual cognitive processes (Niedderer, Clune, & Ludden, 2018). Addressing the tension between the individual and the social context/system is especially a point for attention (Tarquino et al., 2015). Furthermore, a recent study shows that designing for the social interpersonal context is underreported in the ideation phase of behaviour change projects (Nielsen et al., 2021). This case study presents our experiences in combining insights on individual and social systemic determinants of behaviour change during a two-year co-design project.

Case study: COMPLETE

COMPLETE is a co-design project aimed at improving Speech Language Therapy for children (2-6 years) by enhancing collaboration between parents, children with a Developmental Language Disorder (DLD), and Speech and Language Therapists. Collaboration between parents and therapists is seen as a key element in the effectiveness of therapy for children with DLD (Klatte et al., 2020). However, therapists and parents experience difficulties in achieving an effective collaboration in therapy, each being part of a larger social system (i.e., health organisation including colleagues and other healthcare professionals, and family including other siblings and grandparents; Figure 1).
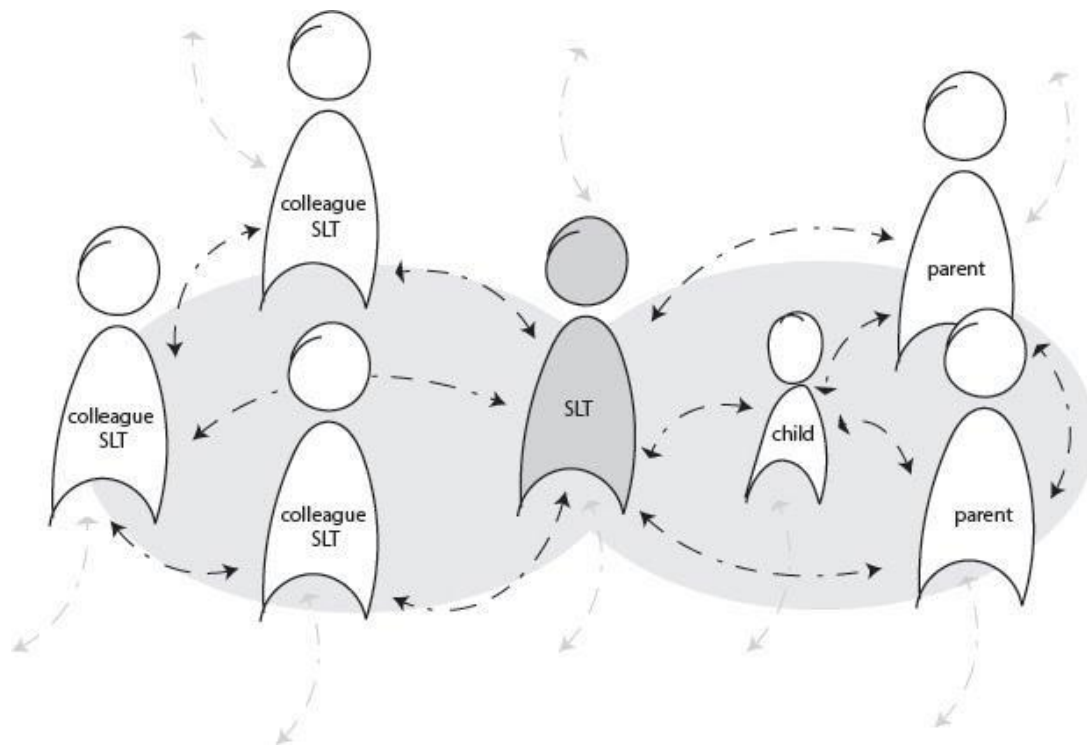
Figure 1. The two interrelated social systems in which therapists work. Grey arrows represent the open nature of these social systems.

A behaviour change intervention was developed to support therapists and parents to work collaboratively in speech and language therapy. The project consisted of four phases; 1) mapping determinants of behaviour and social dynamics, 2) defining behavioural goals and strategies, 3) co-designing prototypes, and 4) evaluating prototypes. Throughout the project, 18 parents and 12 therapists participated in different co-design activities. The co-design activities were performed by an interdisciplinary design team consisting of two design practitioners, one design researcher, two therapists, and a behavioural scientist. The behavioural intervention was iteratively developed in a 5-day design sprint followed by two co-creation sessions with parents and therapists. The intervention consists of a kick-off workshop and the INCOMPLETE Toolbox for therapists – a layered cardboard box (Figure 2) consisting of a range of physical mid-fi prototypes.

Figure 2. The INCOMPLETE Cardboard Toolbox contains all prototypes.

Tools used in the case study: BCW and Socionas

We followed the predefined eight steps of the Behaviour Change Wheel (Michie et al., 2014), a practical guide for designing and evaluating behaviour change interventions. The Sociona Tool (Van Gessel et al., 2018) is an approach inspired by Postma (2012) and was used as a generative tool following Van Essen et al. (2020). Multiple perspex figures

were used to create a table-top constellation of a social network wherein the different stakeholders are represented, and their dynamic relations are identified (Figure 3).

Figure 3. Examples of the Sociona tool as used in generative sessions by therapists.

Preliminary results and conclusions

We present preliminary findings on how these two methods were integrated into the design process, the obstacles that surfaced and the potential synergies. In the first phase, the Sociona Tool was used in three focus groups with therapists to identify the dynamic influences on their collaboration with parents during therapy. Next, the BCW was used to map the determinants of the behaviour of therapists in relation to parents. This resulted in a long-list of 48 possible behaviours from which three target behaviours for therapists were selected. In the second phase, behavioural goals and strategies were defined and supported by the BCW. The intervention functions 'training', 'education', 'modelling', and 'persuasion' were selected. Socionas were used to evaluate existing tools and methods with therapists aimed at these functions. In the third phase, prototypes were codesigned with therapists and parents in a 5-day Sprint wherein one 'how might we' question was formulated addressing the target behaviours. The list of Behaviour Change Techniques was consulted to strengthen the creative concepts. In the co-creation sessions, the therapists expressed that using the Socionas supported reflection on their collaborative behaviour. Therefore, a customised Sociona set became part of the behavioural intervention Toolbox (Figure 4).

Figure 4. The Sociona tools in the INCOMPLETE Toolbox.

Overall, the Socionas supported unravelling the often unconscious dynamics between therapists, parents and children. This provided the design team rich insights into the possibilities for intervening in these dynamic situations; who's behaviours should change when considering what would have the most impact. From these insights, the key role of the therapist in changing these dynamics was confirmed. The COM-B model was mainly used by the design team to structure the analysis of the insights and to understand how to intervene (e.g. which intervention functions and BCTs).

However, using the BCW repeatedly narrowed the focus towards the individual behaviour of the therapist when defining target behaviours and providing strategies and behaviour change techniques. This is reflected in the developed intervention that is aimed at creating awareness amongst therapists about their way of collaborating, reframing collaborative behaviour, and motivating them to change this. Thereby the intervention is not used in the interaction with parents and children, nor giving all stakeholders means to change these dynamics. Moreover, it doesn't actively involve any other stakeholders outside this problematic interaction. From our preliminary analysis, a gap transpires between designing for behaviour change and designing for social dynamics that call for a different perspective; behavioural design for social interaction.

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