

Emotion Work in Experience-Centred Design

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ABSTRACT

Experience Centred Design (ECD) implores us to develop empathic relationships and understanding of participants, to actively work with our senses and emotions within the design process. However, theories of experience-centred design do little to account for emotion work undertaken by design researchers when doing this. As a consequence, how a design researcher's emotions are experienced, navigated and used as part of an ECD process are rarely published. So, while emotion is clearly a tool that we use, we don't share with one another how, why and when it gets used. This has a limiting effect on how we understand design processes, and opportunities for training. Here, we share some of our experiences of working with ECD. We analyse these using Hochschild's framework of emotion work to show how and where this work occurs. We use our analysis to question current ECD practices and provoke debate.

CCS CONCEPTS

• **Human-centered computing** → **Interaction design process and methods**; • **Social and professional topics** → *Employment issues*;

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1 INTRODUCTION

There is an established need within HCI to do research and design which takes emotion into account. This is the case not only in terms of the emotions that might arise and require management when engaging with "users" through standard research methods such as interviews, but also essential to the design of systems which create or attempt to alter emotional experiences in a "user". The use and management of emotion is particularly central when working with Experience-Centred Design (ECD) approaches. In current ECD discourse, this often means using design and research methods that deliberately probe the emotional experiences of participants [42, 43]. In using these methods the researcher is encouraged to build close relationships so as to create an empathetic understanding of the rich details of participants' experiences, dreams, expectations and life contexts [5, 42]. In this paper we argue that such practices create "emotion work" for ECD researchers and participants. Yet, the processes, practices and implications of this emotion work are not discussed within core texts in ECD [42, 43], and perhaps as a result, design researchers neglect to describe their own emotion work in their accounts of ECD research. We find this problematic. Most pressingly, by failing to portray the emotion work of ECD we fail to share and learn as a field how we can use and navigate our own emotions to guide and influence our ECD

practices. In turn this then leads to impoverished supervision practices and ill-prepared design researchers, particularly since some types of emotion work can have negative implications for wellbeing [20]. Encouragingly, we find a few papers in HCI and IxD discourse which have begun to identify the emotional challenges of undertaking "experience-centred" design research [37, 41], particularly within sensitive areas [28]. We contribute to this dialogue by providing a substantive account and analysis of emotion work as it relates to ECD, and through critical reflection identify challenges to the practices of ECD.

Experience-Centred Design in HCI and IxD

Practices of ECD espouse a need for empathetic dialogue and engagement with participants. This demands an emotional attunement, such that the designer sees and feels the person with whom they are working [42]. Particular methods have emerged for achieving this, including design probes [40], and photo work [7], through to "focus orientated bodystorming" [31]. These methods have each been used with success to promote the development of trusting, respectful and meaningful relationships, enabling rich dialogue and meaningful storytelling practices between participant(s) and designer(s).

We find however, that while many researchers use ECD approaches in their work, and are thus likely to experience emotional responses that may need care [37], there is scant mainstream discussion that has explicitly detailed this element of our design and research practice. For example, while [29] provide a detailed introduction to the 'emotional tensions' inherent to undertaking experience-centred ethnography with people with dementia and offers a beautifully rich account of her fieldwork, she does not explicitly describe her own emotional tensions she encountered in undertaking this work. In [27] the authors briefly outline the ethical and practical issues of working within the area of death and bereavement for HCI practitioners. Yet, the emotion experienced as part of this research (either in conducting or participating) is absent from the researchers' accounts of their work, as well as their discussion of practical and ethical issues that researchers might encounter. Overwhelmingly the implicit guidance from the community when working with and experiencing emotion is to remain dispassionate and maintain boundaries [8]. Nevertheless, there are signs that design researchers are unsettled by the "invisible work" we do when we work with our emotions. In 2013 Wendy Moncur [28] produced a set of recommendations that attend to the emotional wellbeing of researchers. In motivating her paper she describes how her own research practices led her to question her own emotional responses to the research she conducts. She goes on to state that she chooses - as most do - to leave her emotional experiences out of her published work, preferring instead to engage in "corridor talk" with

colleagues. The recommendations provided stay close to the formal ethics procedures familiar to UK research institutions, but with the lens of responsibility pointed toward the researcher, rather than the participant. For example she recommends to identify in advance the emotional risks to the researcher (akin to a health and safety review), to review the opportunities available for researcher debrief and identify the availability for formal routes to counselling where necessary. Building on this Wolters [41] and her colleagues provide a discussion of emotion work in eHealth research at alt.chi in 2017. The authors identify how emotion work can emerge through research activities such as in the implementation of technology, data collection and data analysis. They recommend self care strategies, having people with whom to share and discuss emotional experiences and debrief, and finally to reflect on their practice and work through techniques such as journaling.

In recent years there has been increased discussion within the community of the appropriate ethical approaches to working in sensitive and complex areas. Researchers as a result have produced a range of accounts of the ethical flexibility required to work in these complex settings [30]. These include guidance on how to engage more deeply with the ethical responsibility of working in sensitive or complex areas [11], ethical reflections on developing participant-researcher relationships [37]; the micro-ethics entailed in participatory design research [35]; through to the importance of managing the expectations of participants when engaging with new technologies [39]. Many of these recommendations are linked to an increased sensitivity to the emotional experiences and needs of the participants, and ways of treating these individuals and their participation with respect. But, still in these accounts the emotional experiences of the researchers (with the exception of [37]), the ways in which our research practices might impact on our emotions, our own sense of identity and competence are noticeably lacking.

Emotion Work in Other Disciplines

Concepts of "emotion work" and "emotional labour" are often used interchangeably in reference to the management and navigation of emotional processes in work [19, 20]. These concepts were first developed by Hochschild to describe the work done by flight attendants in managing the expression of their own emotions and the emotion of others as a core part of their work life [19]. Emotion work can be used to evoke the experience of giving an outward expression of one's emotion that conflicts with one's true feelings (related to Goffman's notions of "face" [17], or descriptions of emotion regulation [24]), or if one's emotions conflict with the emotion rules of a context [20]. Hochschild considers that emotion work is a skill brought to bear if individuals work with others face to face (or voice to voice), and are required to manage their

own emotion in this interaction. Emotion work is considered to be a component to many different occupations including teaching [32], nursing [18], medicine [25] and counselling [26].

The cost of emotion work is also well documented. Hochschild [19] describes how employees often experience guilt, inauthenticity and self-blame as a result of their ongoing and often unrecognised emotion work. Emotion work has also been related to perceptions of job stress, job dissatisfaction and general distress [34]. Describing the impact of emotion work on qualitative researchers, [9] highlights how being confronted by the emotional lives and events of participants can lead to emotional exhaustion as well as potentially unconstructive reflections and retellings of elements of the researcher's own life and past.

As we have established, there are a dearth of publically available accounts of the emotion work undertaken and navigated in ECD. We believe this hinders the field from understanding how emotion work impacts and influences design processes, and reduces opportunities for the training and supervision of ECD design work. Here we present our accounts of emotion work in ECD to show the intrinsic nature of emotion work to ECD, and in particular the unique nature of emotion work in the act of designing and deploying interactive artefacts.

2 METHODOLOGY: REFLECTING ON EMOTION WORK

Personal narrative accounts are increasingly considered a valid and powerful research tool within the social sciences [10, 14]. Ellis [10, pp. 223] makes a strong case for such accounts: "A story is judged as valuable if it raises questions and engenders passionate conversation, encouraging readers to connect the events and experiences of the characters in the story to their own lives". Taking inspiration from this, we provide a collection of our stories from working on five ECD projects across 10 years of research. As such, we present a spectrum of emotion work, from that entailed in developing and ending research relationships, through to those utilised when we design and deploy research artefacts. Although some projects are less emotionally charged than others, we intend to highlight that emotion work occurs in all manner of ECD research even when from the outset, it might be less easy to anticipate. By making this emotion work explicit, we hope to spur a debate about the ways in which emotion is conjured through our practices as well as the role that emotion plays in the outcomes of our research.

Each researcher began by writing their own story of working on a particular project with the intention of focussing explicitly on the emotions experienced and the role emotion played throughout the research. Even writing these stories for a relatively select and trusted group was a challenge

and initial stories often avoided the emotion at the heart of the process, preferring to stay with the safe territory of the research process. As a result, a member of the research team facilitated a process of mutual collaboration [12] with the other authors to further draw out their experiences of working on these particularly emotionally charged projects. The original authors used these sessions to deepen the emotion detailed in their stories. Despite the fact that some of these research projects were concluded 10 years ago, the strong emotions associated with these projects continued to resonate deeply within the authors, creating strong memories of interactions and experiences within the research, which in turn supported the production of detailed accounts of work. In what follows, we focus on the emotional processes, experiences and role played by emotion throughout the research.

3 WORKING THROUGH EMOTION

In this section we provide our stories of undertaking ECD research projects. We have tried to be as honest as possible in detailing how we felt when undertaking this research, yet we acknowledge that these accounts for both personal and professional reasons may not be complete.

Digital Stories and Portraits

This project consisted of a series of workshops with women's health and education centres [7]. The workshops were part of a longer-term engagement with one of the centres working with women who had experiences of domestic violence to develop exploratory prototypes for women's craft and digital representation. Staff at the centre had invited a digital storyteller to deliver a pilot programme with a group of six women. As part of getting to know how the centre worked to inform an appropriate research design, I assisted the digital storytelling practitioner in the delivery of the sessions, documentation, and liaising with centre staff throughout the process. These sessions ran for six weeks for two hours a week and were followed by supplementary sessions to organise how best to anonymise, present and store the digital stories. These sessions were followed by digital photography workshops with the same group of women.

Rachel's Account: Within the first week of the digital storytelling sessions women started to disclose intimate aspects of their violent experiences of abuse. They expressed their anger and upset of being in the situations they were in. I listened, but often felt I had very little to say or contribute and didn't want to respond by asking stupid prying questions. While I had worked with women who had had similar experiences before, this time was different because I was a PhD student. So I did the best I could as a person. I listened and made cups of tea, especially when the women cried. Making cups of warm sweet milky tea was one thing I

knew how to do. It was something I felt made me feel better and even made the women laugh when I didn't make it the way they liked it. I was already aware of some of the women's circumstances, but I wasn't a therapist or a social worker and so sometimes I became concerned I wouldn't deal with the situation appropriately. I talked to centre staff and the digital storyteller about this too, who agreed this was challenging to deal with. I was reassured this was all part of the process and the women were having additional counselling support outside of the sessions. Dealing with the emotional aspects in the sessions, however made it difficult to focus on what I sometimes felt I needed to do: understand more about the role of technology within these settings.

Four of the women in the group told their stories of abuse to me as part of the digital storytelling process. They asked me to write their stories down for them because they found this easier. I felt obliged to help, even though I wasn't sure this was what I was expected to do. I started to feel hugely responsible while listening and writing, ensuring I was attentive to everything they said. I didn't want to interrupt their flow as shocking scenes unfolded, but sometimes what they said didn't make sense. Once they had finished I often tried to ask gentle questions to clarify parts that were muddled, but this changed the way details were re-told. I started to question whether I was putting words in their mouths by asking them to do this. I didn't want to show that I was shocked by how they had been treated in case this impacted on them and so often I felt more like a police woman collecting evidence for a court case. Their stories and voices rattled around my brain each week, but I couldn't talk with many people about how I felt in case I disclosed something inappropriate. When I talked to other researchers I did so in vague ways, omitting detail so as not to reveal anything crucial that would be traced back to the women or to anything that indicated my feelings of inadequacy, vulnerability and hopelessness. In my openness to build empathic relationships with the women, I was starting to feel voiceless and emotionally overwhelmed as if I had little of worth to say that was valuable to the academic community, the women or the centre staff. On the other hand when it came to do the follow on research, I was able to work in much more responsive ways.

Motivating Mobility

The Motivating Mobility project explored how technologies might be designed that motivate individuals recovering from stroke to engage in repetitive rehabilitation exercises in their own home. In this work we used probes, interviews, home visits and focus groups to develop a holistic understanding of the experiences, motivations and lives of those who have experienced a stroke [2, 3, 13]. This was followed by the design

of bespoke rehabilitative systems for four individual participants and their families through a series of ECD engagements in the participant's homes conducted by Madeline in collaboration with a physiotherapist. The prototype rehabilitative systems were deployed for between 4 weeks and 6 months depending on the stability of the prototype and the willingness of the participant. Diaries, weekly phone interviews, post-deployment interviews and a battery of physiotherapy tests were used to evaluate these deployments.

Madeline's Account: I designed a rehabilitation device with Sophie, her son and her mother that would allow her to play with her son as she completed rehabilitation exercises. During our design work together we spent much of the time playing with her son, but I also watched as Sophie's mother undertook most of the day-to-day care of the then 2-year old. Sophie expressed to me a deep desire to be able to do something alone with her son, and something that would be fun for them both. Once we had agreed on a design together, the sketches were sent to our project partners for development. Due to resourcing issues and the complexity of realising the design, we deployed the device three months later than originally planned, which also caused some irritation for Sophie and her family. The wooden box, with the device, delivered by our partners provided the required functionality. I was concerned it didn't reflect what I understood of their family home and life, so my colleague and I spent a week sanding and painting in attempt to make the device 'fit' and seem reflective of the relationship we had developed. A week into deploying it though, the family started to experience problems. We returned several times to Sophie's house with the hope of fixing the device, but every time we returned we couldn't find anything to fix. Over the six weeks that the device was deployed I received many calls and emails from Sophie's mother. Sophie's mother did not hold back from detailing the distress this deployment was causing both Sophie, her grandson and the wider family. I doubted the design work I had done with Sophie. I had felt that Sophie wanted to 'play' with her son, something that I understood as informal, as-and-when it would be fun and interesting for her son. Instead, every day Sophie tried to engage her son (aged 2) in playing with the device with her for a set number of repetitions. Her son would grow tired of playing the game before Sophie felt her rehabilitation was complete, leading to a stand-off between Sophie and her son. Sophie continued to play and her son resisted, resulting in a frustrating, tiresome situation for them both. Exactly the opposite of what I had hoped to achieve with the design. Sophie's mother was clearly angry with me and the project. I worried that Sophie and her family would think that we didn't respect them, their home lives, values and family. Worse still, and this is what continues to be painful, I felt that during the deployment for the most part we had made their home

situation worse. I became increasingly anxious about the deployment. How would Sophie and her family interpret and feel about our research, our abilities and our understanding of her and her family and the value of the work we had done together by deploying such an object? I dreaded doing the end-of-deployment interview and when it came around it was possibly one of the most uncomfortable experiences of my professional career. From the moment I sat down in their kitchen I knew things had changed. There was no more joviality or small talk and Sophie spent a good portion of the interview avoiding talking with me, leaving her mother to respond to most of the questions alone. When I left I was told I should burn the device.

Diabetes and Malaysian Teenagers

Myself and Madeline travelled to Malaysia to work with teenagers with Type 1 diabetes. We engaged the teenagers in ECD, aiming to develop a technology intervention to help them manage their diabetes through exercise, blood glucose monitoring and food intake monitoring. The intervention was originally planned to replace brochures containing health information, to be more engaging and relevant to the teenagers. We eventually ran our workshop with six teenagers, aged between 11 and 14. A week prior to the workshop, each teenager received a box of probes which included a diary with daily questions and some personal information about us, a disposable camera, a sound recording device, and some prompts. Our face-to-face workshops with the teenagers consisted of two two-hour sessions which were run in a fast food restaurant and three 30-minute sessions run as part of a diabetes summer camp. For each session we had a plan of activities, but due to the changing nature of the sessions a lot of the work we carried out was improvised and focussed on getting to know the teenagers and their lives. In the end, the project did not continue because of a difference of opinion with the clinical collaborator in terms of how to proceed with the design of the digital component.

Rob's Account: I knew we wouldn't have long with the children and so to start the relationship we produced a series of probes to help the children get to know us a bit better. Many of the design sessions were a struggle. The children were shy, the environments selected for our work were busy and noisy, and everyday it felt like I needed to re-plan our engagement again. It was not until the final session that I felt we made any head way. We had decided to draw a comic of our understanding of the children's everyday lives and have them edit it. We sat around tables, in the fast food restaurant, and cut and paste and drew and told stories. This much of the work was emotional, exhausting, and when we finished exciting (partly to be finished and going home, and partly to have felt we understood something of the children's lives, their feelings of loneliness and exclusion). The real focus of

my point here is what happened after we finished. As the sessions drew to a close, and following our final session we both received a number of Facebook friend requests. After all the frustration and struggle that I had been through with the project, it was, for want of a better word, heart-warming to know that the children felt they should be friends with me on Facebook. Unfortunately, everything in my professional self told me I could not accept these friendship requests. Even if it had been professionally acceptable, it didn't really make sense for me to be personally friends with Malaysian teenagers. Having spent my PhD studying the meaning of these connections and requests on social network sites, it was however extremely painful for me to simply ignore the requests. It also began to raise a lot of questions for us about what we had been doing in getting to know the children. I deliberated closely on this, I contacted other researchers who had done similar work, I looked at research - I did everything we could to have some reason to act one way or another. In the end, I followed my professional views, sent an e-mail to each of the children explaining why we couldn't be Facebook friends, but promised that I would keep in touch. For reasons beyond my control, I have not done this in the ways I would have wanted. I doubt I will forget the six children, but I also worry that they will not forget how I snubbed them after getting what I wanted from them (or so it might seem to them).

Soma Design

Soma Design is a new framework for how to do design with your whole "soma" involved: mind, body, emotion, movement, experience [21], aiming for aesthetic engagement. Soma Design researchers propose a first person felt stance [22]. But engaging with your whole self comes with a risk for both the design/research team and for any end-users involved in design processes. To come to design ideas, we explored a range of bodywork methods in our research team: slow walking, Feldenkrais, and contact improvisation dance. We engaged in these body work sessions several times a week for several months. Design ideas were allowed to form slowly and were mostly centred around articulating experiential qualities we would like to engage more with. One of the resulting designs from this process was the Breathing Light and Soma Mat. The two prototypes aim to support meditative body introspection, subtly guiding participants to turn their gaze inwards, to their own bodies. The user experience can serve several purposes: a way to body awareness, enriching the somatic appreciation and sensitivity, and as a medium for winding down in our everyday life.

Anna's Account: We placed the Soma Mat and Breathing Light in people's homes for 3 months and instructed them to use the prototypes at least 3-5 times a week. Three semi-structured interviews in their homes, and questionnaires on

body awareness were used for evaluation. When deploying the prototypes I realised how much space the prototypes took up and several of the participants lived in tiny flats. We had to move furniture around and I felt really embarrassed to take up so much of their private space. Instead of putting this choice on the participant, I was feeling guilty. What happened was that several users, one in particular, started to put together pieces of body awareness practices that she had learned before, like yoga, physiotherapist instructions, etc, into an ecology of things and she slowly started to explore how they could be used and understood in connection to her body and her life. By using the prototypes she had less headache and didn't grind her teeth when sleeping as much as she usually did. It became easier to fall asleep after she had done a session. She created a routine for herself in the evening, brushing her teeth, a session on the Mat and then go directly to bed and sleep. She also became more mindful in general, more in the present. Her friends started to complain that she was walking too slow. In the last interview when we were to collect the prototypes she was really worried, how could she replace the prototypes with some other ritual or exercise? She talked about buying a heat blanket, but that it would not be the same. I really wanted her to be able to keep the prototypes, but we had post-questionnaires that should be filled in after three months to see if there were any lasting effects, so we had to remove them. She asked if she could rent or buy the prototypes somehow. After the interview I gave her some tips on body scanning recordings that I had used myself and found similar to the voice instruction in our prototype. I felt so sorry for her. Like removing the safety in her life and home. Nine months after the study I received an email where she thanked us for letting her be part of our study and that we had changed her life for the better. Then I felt better again, but in a way that you almost want to cry because it touches you. It was so sincere, I feel touched even when I think about it, makes me all emotional. I think I could not separate my own private experiences from hers and maybe that is why it first felt as though I was letting her down and that is why her email caused such strong emotions in the end. It also became clear to me, as a designer, how much of myself I built into the prototypes, they are crafted from my previous and inner experiences. Therefore it was hard to separate myself and my emotions from the prototypes. When someone criticized the prototypes it became personal.

Kia's Account: We have been working with the Soma Design processes for a while, and I know it requires giving up some privacy in order to become a tightly knit design team that can speak openly about what we feel - and thereby what we want to build into our designs. But the formal, hierarchical roles in the academic system, in particular, my role - the professor - and my colleague, Charles's, role - the new PhD-student - comes with tricky power distributions. I wanted to

break down some of the barriers between us, to create a more trusting, open relationship, so that we could share together our experiences. The training situation I describe comes from more of an intuitive feeling, in the moment while doing one of the body work exercises, a contact improvisation dance lesson, that I needed to feel "closer" to him in order to share more and be able to design together. The contact improv lesson was lead by a dancer and teacher, and was part of a group activity we were using to develop our design ideas. The instructor led us through a range of warm-up exercises, to help us move more freely, to have fun, to be less self-conscious, and ultimately, to dare to touch and move together. Half-way through the lesson, we were asked to make the palms of hands meet, and then let one person lead and improvise moving together by pushing and moving our hands and thereby arms and torsos together. After a while we shifted, and the other person got to lead. Finally we were asked to lead and follow seamlessly without discussing who was in charge. At first, we did the movements politely. I could feel that Charles would not let me get too close. He would move back if I pushed our hands and arms closer to his body - there was a very clear dividing line where he would not let me get any closer. He was also very politely refraining from getting too close to me when he was in charge of the movement. Charles describes his side of this interaction as: "In the beginning, when I followed the hands of my supervisor I was reserved and respectful and yet I felt the challenge to engage in movements beyond my comfort zone. In a sense, I felt obliged to engage and push my own boundaries as this is one of my personal goals in pursuing a PhD - to take risks and develop as a designer and researcher. I knew that my supervisor likes to push the boundaries, but that didn't help me to loosen up. While my hands followed hers I had the opportunity to deny movements and draw boundaries which she respected in the beginning but then tried to cross and shift several times. I let it happen because each time she crossed my boundaries just shallowly, she formed a feeling of understanding paired with challenge, a kind of bodily dialogue." From my (Kia's) end, feeling Charles's resistance made me want to play. I made swift, rapid pushes towards one of his palms to push him out of balance and to also communicate how I knew he was resisting me. In a sense, I was teasing through playfully overstepping his boundaries - but I was careful in not going too far initially. We started laughing as this broke the spell of being "very serious researchers trying to do what we've been told" and instead got us into the playfulness that bodily engagements can be. At some point, the boundary between him or me leading was no longer clear to us. We acted in synchrony. Charles describes this part as: "But we felt that there was an equality, a form of equivalence between us that allowed our hands and arms to move freely. At this point we began to laugh because we not only challenged each other

but also wanted to outsmart and surprise each other. The bodily dialogue was about humour and joy and around moving one's own body." Apart from spurring design ideas, this event broke down some of the barriers between myself and Charles. Charles describes this as: "After the end of the three-step exercise, the real surprise happens for me personally. We had a very open dialogue about our own behaviour: I about my restraint and my supervisor about her challenging nature. We could talk about this peculiarity very precisely although we have never done this before. After 15 minutes of dancing it seemed possible."

4 ANALYSIS OF EMOTION WORK IN ECD RESEARCH

Arlie Hochschild identifies emotion work in employment as consisting of three central traits: 1) face-to-face or voice-to-voice contact between the worker and the "public"; 2) the need to produce an emotional state in another person i.e. gratitude, fear, trust; 3) the job type or employer exercises a certain amount of control over the emotional activities and responses of the employed [19]. Here we present an analysis of our stories with specific attention to how the work of ECD relates to Hochschild's conceptualisation of emotion work and labour.

Contact between Designers and the Public

ECD often requires engagement with a person's lived and felt experiences of the world. This is something which does not necessitate face-to-face, voice-to-voice or body-to-body contact but is nevertheless often achieved through these types of encounters. Looking explicitly at key texts regarding approaches to ECD [43], we see McCarthy and Wright go further to state that the development of this face-to-face contact could be viewed through "aesthetic seeing", illustrating how the relationship between the participant and the designer is grounded in the richness of sensed and felt experience of one another. The designer thus is not simply in contact with the participant but is sensing them and their experiences and responding to them. In our stories we see Madeline working over the course of 18 months with Sophie and her family to first understand their lived experience of stroke rehabilitation, engage in a process of co-design, and then document their experiences of living with the prototype for a period of time. Contact was achieved through face-to-face home visits, phone calls and emails. Similarly, (Rachel) provides an account of the face-to-face work involved in working with women who had experienced domestic violence, listening and feeling accountable to and documenting their stories as part of a series of face-to-face workshops. These different forms of contact leads both Madeline and Rachel to intensely feel the experiences recounted by their

participants, sometimes in painful, confusing and uncomfortable ways.

Producing an Emotional State in Others

An empathetic approach in developing a research relationship may require the designer to produce a particular emotional state in both themselves and another person. It is often the job of the designer to instill feelings of trust and rapport required for participants to share their stories. Rob for example tells of creating and dispatching custom-made diaries and several probes prior to meeting the children in Malaysia. These diaries serve the purpose of both collating some initial data about their experiences of living with diabetes and thus prime them for the workshop. They are also designed to accelerate the relationship building activity between the designer and the user. Not only do they provide a glimpse into the designers' aesthetics and intentions [15], these diaries also include some explicit information about the designers who are coming to meet them. With self-disclosure key to the development of trust, one could describe this as a purposeful strategy on behalf of the designers to begin the development of a trusting relationship prior to meeting the children. It is not to argue that Rob does not care about the people with whom he worked. Rather as an example this shows how designers are often seeking to create a particular kind of emotional relationship with their participants in order to be able to do their job. Rob tells of receiving and rejecting the children's requests for a "facebook friendship". These requests indicate that for those participants these relationships may have transcended the researcher-participant boundaries. Is it any wonder, when the design researcher has sought to develop a relationship, with trust, compassion and active listening to details of a life that perhaps no one else has carefully listened to before? While these rejections of online friendships were not made lightly, they were made as a result of what was considered a "professional" role. Withdrawing from these relationships also caused some distress and feelings of guilt for our design researchers (and possibly participants). These feelings stemmed from the uncertainty about how best to achieve professional closure for relationships that felt real for participants.

The Designers' Professional Role Exerts Control

The third aspect of emotion work that Hochschild describes is control held by an employer or job type over the emotional responses and activities of an employee. Unlike the types of employment discussed in Hochschild's work (air stewards, debt collectors), there are no detailed manuals, no extensive training sessions, which detail how to behave when doing ECD. Of course, institutions and countries have specific ethical practices which must be adhered to, but these, as Spiel [35] has identified, do not get at the micro-ethics of

the everyday practices of working with people. As design researchers we draw from our training, supervisors, colleagues, and available literature to guide us on how to be professional within ECD practices. Thus, it is more complicated to identify how control (whether perceived or real) is exerted by the job type within the stories provided here. Kia's story provides a glimpse of how a supervisor may work with her student to provide the kind of training necessary to do forms of ECD. It details her work with her PhD student Charles to train him within the working practices of the research group. In terms of Hochschild's traits of emotion work, it illustrates how training might happen within ECD practices that demand specific kinds of emotional activity and responses from employees. As part of a pre-arranged, group-based, body-based design activity Kia oversteps what she understands of Charles' personal and professional boundaries, showing him explicitly the kind of trust that their work requires, and in addition, she shows him clearly how she wants their relationship to be. In Hochschild's view the supervisor is demanding a certain kind of emotional expression from the supervisee that produces emotion work for both, but presumably more for the supervisee than the supervisor. Charles's response to this is a positive one, how he feels about the reduction of boundaries between himself and his supervisor, the development of trust and empathy are in line with Kia's hopes for their developing relationship.

Eliciting stories and experiences to empathise is just one side of the practice of ECD. The designer uses what is understood of those elicited experiences, alongside the designers' own feelings to respond. The act of designing and making thus becomes part of the dialogue of ECD, where the designer engages with her emotional responses to her participants, and creates something which aims to reflect these. This differs from specific types of work described in Hochschild's accounts, but still resonates with the idea that an employee utilises their emotional reserves to produce a particular service or experience. ECD suggests the designer should express herself, her values, emotions and compassion for another person in the materials and resulting artefact, also bringing particular forms of emotion work. In Madeline's story we see her responding emotionally to the relationship that exists between Sophie and her son. However, the experience Madeline designs fails. Madeline feels ashamed of the prototype, embarrassed by what the prototype might suggest about her level of respect for the family. She reflects negatively on her own abilities as a designer. Her competence has been questioned. By endowing her emotion and her feelings for the family into the artefact she now experiences failure, not just of the device, but of herself personally [16]. In contrast, for Anna, through the deployment of the soma mat she becomes aware of the extent to which she has designed herself into the prototype. Every positive comment brings intense

emotional experiences, but every criticism of the soma mat is painful to hear too. The boundaries between the design and the designer become unclear [23]. Anna's experience of removing a prototype becomes one of difficulty, prompting guilt, as she removed the device helping her participant feel at peace, to fulfill the requirements of research publishing. An email from a participant - absolving Anna of the need to feel guilty - brings relief and great personal pride in the work Anna has achieved [16]. In this example we see the emotion work leading to a more positive resource gain [20].

5 DISCUSSION

Based on the stories and analysis presented here we argue that emotion work is not simply the lived experience of an individual design researcher, but is inherent to ECD practices. While seeking to establish this through our analysis, we also need to establish within the community that there is a cost to doing this kind of design research, both for the researcher, and the participant. There are clear instances in the stories where emotion work had a positive impact on the design researchers' work, and interpersonal relationships, leading to pride in our research, new design concepts and deeper personal relationships [16, 20]. But, it would be unfair to represent all emotion work in ECD within this light. Hochschild [19] and others have previously identified problems of guilt, inauthenticity, self-blame and emotional exhaustion as associated with continued emotion work. Indeed, the very fact that we write this paper so many years after some of this research was completed demonstrates how these experiences continue to be carried by us. The self-conscious emotions we experienced (pride, shame, guilt, humiliation, embarrassment) [16, 38] called into question our identity and competence as designers and researchers. As we shared our stories with each other, and adapted our research practice to limit negative consequences for ourselves and our participants we have found ourselves questioning ECD approaches. This has resulted in the generation of three provocations for ECD researchers, and three practical strategies for change in our research practice, which we present below.

Provocation 1: Being Human is Not Enough Although ECD requires a designer to engage in emotionally charged work, to manipulate their own and their participants towards certain levels of emotional openness and receptiveness, it provides no direction on how this should be achieved. Simply, ECD assumes that the mere "humanness" of designers is enough to be able to effectively and appropriately deploy emotions as a design resource. We can see in Rachel's story that this is exactly the response to a difficult situation. In fact, it is many of our responses - to rely on our instincts and our humanity. What we argue through the lens of emotion work is that this situation - whereby we instinctively engage emotions to do our work - is not enough. We are

professionals, and it is not enough to simply be "human", we should also be skilled, trained, and deliberate in our use of our emotional efforts. This is absolutely not to suggest that we should NOT be human, nor that it is wrong to employ our humanity as a response to the suffering, and trust given to us, but that we should also go above and beyond this. We should not do so naively, nor should we do so without the appropriate means to deal with the consequences for ourselves and for our participants, of emotionally charged work. When we engage our own humanness (or humanity) as a design resource, we inevitably engage in appropriation of others' experiences. We do so from our privileged positions. We take ownership of someone else's humanness by saying that we can empathise. In many sensitive situations, the experiences of our participants can be beyond our own, even beyond our own conceptualisations of what is possible to be experienced. Thus, deploying our own experiences can diminish and normalise others. The fundamental characteristic of ECD - the emotions that we experience and utilise as part of our engagement and design process - is profoundly missing both from Wright and McCarthy's descriptions of ECD [42, 43], and as a result from almost all published accounts of ECD within the field. Moncur [28] when reflecting on this issue suggested that including these emotions could 'serve as a distraction from the research findings, or even as "confessional tales" and "methodological self-consciousness". The inclusion of these emotions and how we have used them exposes us as people. But, if we do not share how we use and work with our emotions as part of standard ECD discourse then we fail to provide an opportunity for others to learn about how they themselves can use and navigate the emotional experiences inherent in ECD.

Practical Strategy 1: Formally Sharing Emotion Work

We need to formally account for our emotion work so that we can better learn and train ourselves to understand and manage this kind of work in our own practices. We hope that this publication can be the instigator for such practices within the CHI community. Similar to the increasing inclusion of positionality statements within HCI papers, we believe that the regular inclusion of short statements on the emotion work experienced as part of our research can help to give better context to our processes and practices, providing a wealth of resource for other researchers to draw from when making methodological decisions in their own work. Such statements should provide an overview to the ways in which a designer prepared for the emotion work in a particular project, reflections on how particular methods helped (or not) to create anticipated emotional responses in a participant, or accounts of how design / research approaches were adapted over the course of a research project to help limit the emotion work of a researcher.

Provocation 2: Questioning the 'Professional' Time and

time again in discussions of research ethics, particularly in relation to research in sensitive and complex areas, we are told that we must maintain professional boundaries between ourselves and our participants [8, 11]. As discussed above, we have found ourselves questioning how to conceive of a professional boundary within this space. As described in [11], it is extremely important for researchers to be mindful of how their conduct in professional relationships reflects upon their credibility. But, based on the premise within ECD to form an empathetic, trusting relationship with another, to find ways in which we should be able to feel and sense another's experience, we find ourselves questioning the extent to which it is possible to retain these objective and professional boundaries, and still achieve the aims of ECD [6]. Is it possible to have "strong feelings between self and other" [42, pg. 638] and still be objective? In Toombs et al. [37] discussion of "care ethics" in long-term collaborations, the authors introduce the researcher role as "friend, validator, caregiver and - importantly in this case - care receiver and vulnerable other". Such a turn in how we understand our professional relationships within ECD seems necessary if we are to be honest about how these relationships begin, and develop over the span of a ECD project. Further, we need to evolve what it means to be an academic, a researcher, a supervisor, a student, a designer, etc. So often professionalism is associated with not feeling, and certainly not expressing emotion. But, to do emotion work well necessitates that we can identify emotions in ourselves, and others, that we can talk about these emotions, and reflect on how these emotions might be impacting on us, and on our work. That is, we must, as a profession, recognise emotion as one of the tools of our trade, and treat it as a core element of our work.

Practical Strategy 2: Self-Care and Institutional-Care

The importance of self-care as a means of dealing with the emotion work has been recently highlighted [41]. We echo these strategies and emphasise the importance of individual researchers, supervisors and research groups putting in place explicit support structures and strategies for self-care. In our own work, we have found it important to have regular de-briefing sessions where we explicitly raise and discuss the felt-experience of the work, and give permission to people working in the project to have and to talk about emotionally sensitive issues. This "talk" is modelled by senior members of the research group, enabling junior members of the team to find a way into talking about these kinds of experiences. From an institutional perspective, we need to start pressing institutions (research institutions through to grant funding bodies) to make available necessary resources to support emotion work. This may include work-based counselling, and also training to better enable the expression, communication and understanding of emotion within work-based practices.

Provocation 3: Resisting our Urge to Engage Participants in Design Working with people is central to HCI practice. Interviews, focus groups, design workshops, and all other manner of design methods help us understand the design space, the problem area, or experience to which we are responding. Although we see continued benefit in engaging people directly in our design processes, we find ourselves questioning this impulse. Designers might be asking participants to relive and retell painful or even boringly mundane experiences, participants might be placing their hope in the hands of the designer, or the participant and designer might be developing a deep relational bond that is in contradiction to the limitations of a research project. All these create the need for emotional work. They are not inherently "bad" practices, but reflecting across our experiences, we suggest that we must be able to justify the choice to engage in these practices, rather than do them by default. We should seriously consider the possibilities of understanding experience through alternative lenses. Wright and McCarthy [42] discuss numerous techniques for engaging in dialogical empathy with a potential user - some of which involves working with 'real' users, others place those 'users' at arms length. First-person and auto-ethnographic approaches to design research have gained traction in recent years [22, 33], as have the use of gaining an understanding of experience through accounts provided on social media [1] or non-academic literature. We argue then that one option for use within a design process could be engaging with available narrative accounts of experience, of stories already told. Design researchers can continue to feel (sometimes strongly) emotions and empathise with particular kinds of experience without having to engage in the face-to-face or voice-to-voice work strongly associated with emotion work [36]. By initiating design in this way the researcher does not need to meet the eyes of the participant sharing her experiences of violence, she does not have to hide her anger, or her tears, all of which reduces the emotion work for researcher and participant. Further, by deeply and richly engaging with our own autobiographical experiences, or through existing narrative accounts of experience, we can better judge when to involve others in our design process, and can be better prepared for what kinds of emotion work may be ahead. Finally, it is worth responding to the emotion work intrinsic to the deployment of artefacts with participants. As a field it seems we privilege participants living with, or experiencing our prototypes over other forms of evaluative processes. However, drawing from design research we know that there are other ways of engaging in deep critical interpretations and evaluations of our work, from critical readings [4] through to practice-based methods. We should value these approaches to evaluation equally to user engagements, they can tell us just as much. Sometimes it is necessary to deploy something, in real life, and over

the long term. And, when these moments arise we suggest adopting a 'laddered' approach, considering options such as design fictions, or design exhibitions first.

Practical Strategy 3: Preparing for Emotion Work Our experiences in these projects establishes a clear need to engage in a meaningful analysis and justification of our approaches in relation to the cost of emotion work for participants and researchers. While institutional ethics review boards will already consider potential 'harm' to participants, the cost of more subtle emotional work or of hidden emotional work can be difficult to account for - although with the successful undertaking of Strategies 1 and 2 this should become easier. In planning projects we now give serious consideration to the disruptions we might inflict on vulnerable people during design work, considering not only practical risks, but also risks which could engender emotion work including invasion of privacy in disclosing highly personal or painful aspirations and emotions; intrusion into the participant's home and habits for design probes; and fatigue stemming from undertaking additional activities which require sustained concentration. In addition, we have found it incredibly useful to engage with pre-existing narrative accounts of experiences to anticipate and prepare for the kinds of emotion work when engaging others in design work.

6 CONCLUSION

While undertaking ECD research over the last decade we have noted difficult emotional situations, but we did not always directly acknowledge the emotion, the impact it had on our participants, ourselves, and the outcomes of our research. Emotions remained as invisible work, not to be explicitly engaged with. Here we have sought to change this. We have explicitly named the emotions - guilt, frustration, sadness, vulnerability, pride - and highlighted emotion work as a crucial element of ECD. As a result of our critical reflections we ask designers and researchers to 1) Incorporate accounts of emotion work within formal publications of research to enable the community to learn how emotion is used and managed; 2) To re-think what it means to be a professional within ECD, accepting the role that emotion plays in enabling and hindering our work, and to cross boundaries when it feels right; 3) To carefully consider the alternative ways in which we can encounter experiences as a path to understanding and preparing for the emotion work in the field.

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