
Designing Compassion Cultivating Interactions for New Mothers

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ABSTRACT

This paper describes a research project that aims to examine an unexplored design space - compassion cultivation for wellness. This project seeks to understand the components of compassionate interactions between new mothers and their proximate and primary supporters- partners - to inform the design of compassion cultivating interventions for maternal wellness. A discussion of research activities undertaken thus far and preliminary results are presented.

CCS CONCEPTS

• **Human-centered computing** → *HCI theory, concepts and models.*

KEYWORDS

Compassion, Compassionate Interactions, Compassion Cultivation, Motherhood, New Mothers, Life-Transition, Social Support, Journey Mapping, Empathy Map, Mind Map, Design Thinking

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RELATED WORK

This section presents an overview of prior research that has influenced my research.

Social Support and Mothers' Wellness

The amount of postpartum support a woman receives affects her physical and mental health. Many researchers identify social support as one resource that has been shown to be effective in helping women cope with a range of stressors following childbirth [2, 16]. New mothers who lack adequate support have a higher risk of developing postpartum depression (PPD) [10]. Mothers expect support from multiple sources, such as their partners, mothers and friends. However, research has shown that women consider their proximate supporters - partners - as their main source of support [14].

Compassion and Wellness

Compassion is conceived of as a feeling of concern for another person's suffering (empathy) accompanied by a motivation to help. Chochinov defines compassion as a deep awareness of the suffering of another coupled with a wish to relieve it [3]. From the Buddhist perspective, compassion (Karuna) is a basic quality of human beings rooted in the recognition of and desire to alleviate suffering, and gives rise to prosocial behaviors [7]. Dewar's work on compassionate care in nursing practices gives insights into strategies for understanding stakeholders' views on compassionate behavior [5]. The meaning of compassion and the processes to enhance it involve how people relate to each other in different contexts. In each context, it is important to identify key processes and behaviors that support the development of compassionate interactions. This requires identification of and reflection on roles and responsibilities in enhancing compassionate interactions.

INTRODUCTION

Life transitions are an integral part of women's lives, mainly due to the biological factors unique to them as child bearers. Life transitions such as menarche, pregnancy, miscarriage, childbirth, and menopause have profound implications for women's physical and mental wellness. Among all the transitions women go through, the transition to motherhood is arguably the most complex and consequential for her wellness. There is considerable evidence indicating the positive effect of social support in the well-being of new mothers and their infants [4, 8]. Lack of social support and care during this transition is a demonstrated risk factor for postpartum depression (PPD).

Thus far, I have completed multiple needs assessment studies to investigate the support needs and support network structures of pregnant women and new mothers [9, 12–14]. Analysis of the study data revealed that there is often a significant gap between the support expectations and the actual support new mothers receive from their supporters, especially their partners [14]. This finding motivated me to investigate the pathways and mechanisms that influence the social connectedness and desire to help on the part of support providers. I conducted a literature review on the topic and found out that compassion motivates people to help. This insight motivated me to undertake my current research - designing for compassion cultivating interactions, and investigate whether technology-enabled interventions can cultivate compassion and thus narrow the gap between expected and received support. This research can inspire designers of support interventions to incorporate compassion cultivation as an integral part of their designs to improve adoption and use of support interventions.

Research on the components, motivating factors, and triggers of compassionate interactions, especially during the transition to motherhood, is lacking. This research draws attention to this un-examined design space. The goal of my research is to develop a framework for designing socio-technical interventions for compassionate interactions during transition to motherhood. In addition, the methodology and the tools used in this research can act as a road-map for compassionate interaction design for other life transitions. Prior related work that informed this research is provided in the sidebar.

METHODOLOGY

Designing for compassion cultivating interaction can be considered a "wicked problem" - a term coined by Rittel and Webber [15] - as no established framework, methodology, or rigorous prior research exists to inform the research. The very components of compassionate interactions in the context of transition to motherhood are not fully understood. As a result, this un-examined topic is suitable for applying design thinking approach.

This research will follow the four-stage design thinking process proposed by Liedtka and Ogilvie [11]. This process can be illustrated by combining the four basic questions, which correspond to the four

| Mother's Journey Map | | Participant ID: |
|--|--|--|
| Morning (Time:) | Evening (Time:) | Before Sleep (Time:) |
| (Reflect on how partners perceive morning and evening) | | |
| Feeling How do you feel now? Describe | Feeling How do you feel now? Describe | Feeling How do you feel now? Describe |
| Doing Who did you interact with recently/now? What was the interaction? Did that contribute to how you feel? | Doing Who did you interact with recently/now? What was the interaction? Did that contribute to how you feel? | Doing Who did you interact with recently/now? What was the interaction? Did that contribute to how you feel? |
| Thinking What are your thoughts now about how you feel? | Thinking What are your thoughts now about how you feel? | Thinking What are your thoughts now about how you feel? |

Daily Reflections: (Time:)

Please reflect on the interactions you had with your partner today. You may reflect on the following prompts. You may reflect on any other topics you wish to share.

What are your thoughts and feelings about your interactions with your partner today?

What interactions of him made you happy? What made him unhappy?

(If relevant) What interactions of you made him happy? What made him unhappy?

Figure 1: Journey Map: Template.

| Partner's Journey Map | | Participant ID: |
|---|---|---|
| Morning (Time:) | Evening (Time:) | Before Sleep (Time:) |
| (Reflect on how partners perceive morning and evening) | | |
| Feeling How do you feel now? Describe <i>Relaxed and ready to go!</i> | Feeling How do you feel now? Describe <i>Somewhat annoyed. Feeling tired & talk annoyed with sister.</i> | Feeling How do you feel now? Describe <i>Happy! And relaxed.</i> |
| Doing Who did you interact with recently/now? What was the interaction? Did that contribute to how you feel? <i>My wife & Tommy. We got ready for a 15-minute party. I was in a good mood and happy.</i> | Doing Who did you interact with recently/now? What was the interaction? Did that contribute to how you feel? <i>My wife & Tommy. We got ready for a 15-minute party. I was in a good mood and happy.</i> | Doing Who did you interact with recently/now? What was the interaction? Did that contribute to how you feel? <i>My wife & Tommy. We got ready for a 15-minute party. I was in a good mood and happy.</i> |
| Thinking What are your thoughts now about how you feel? | Thinking What are your thoughts now about how you feel? | Thinking What are your thoughts now about how you feel? |

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(If relevant) What interactions of you made him happy? What made him unhappy?

Figure 2: Sample of a Daily Journey Map Entry - Partner.

stages of the process. The four stages are identified as 1) What is? 2) What if? 3) What wows?, and 4) What works. The **What is** stage explores current reality. **What if** represents the idea-generating phase that envisions a new future. **What wows** makes some evaluative choices about the concepts from the previous stage. **What works** leads the team to select the best design/ product for the users.

Phase 1 - "What is" Stage

This stage included multiple study activities, some of which are recommended by Liedtka and Ogilvie [11], to understand the elements of compassionate interactions between new mothers and their partners.

Survey

The main purpose of the survey was to understand the elements of compassionate interactions between mothers and their live-in partners. The survey asked about mothers' perceptions of compassionate interactions based on their lived experiences. The survey also included open-ended questions that asked the participants to describe recent compassionate / non-compassionate interactions with their partners, as well as what they think constitute compassionate interactions with the partner.

Semi-Structured Interview 1

Eight first-time mothers and their live-in partners were interviewed at their homes. The insights from the initial survey data informed the interview questions. The interviews followed an experience-centered approach, focusing on couples' daily interaction experiences. The mother and her partner were interviewed separately to avoid response contamination.

Journey Mapping

Journey mapping is the visual representation of participants' experience (daily activities, emotional states and reflections) in a graphic format. For this research we developed customized journey maps for the mothers as well as their partners (Figure 1). At the end of the first interview, the journey mapping activity was introduced to the couples. The participants were asked to fill out the journey maps for two weeks. They were given folders with 14 journey map pages, one for each day (Figure 2). The folders were color coded to distinguish between the mother's and partner's folders.

Semi-Structured Interview 2

The second interview was conducted after the participants completed two weeks of journey mapping. The main focus of this interview was to get feedback on the design of the journey maps and their experience with two weeks of journey mapping activity. A description of the data analysis is provided in the sidebar.

Analysis

The primary purpose of the analysis was to identify the components of compassionate interactions, and to establish design criteria for the next stage. Multiple strategies such as thematic analysis, mind mapping, and empathy mapping were used.

- **Thematic Analysis**

Thematic analysis driven by grounded theory [6] was used to draw insights from the interviews. It involved open coding by closely reading the texts of the interviews, labeling concepts, and developing categories and themes [1]. Dedoose (www.dedoose.com), a qualitative data analysis software program, was used to organize and analyze the collected interview data.

- **Mind Mapping**

Mind mapping is a tool for thinning out large amounts of data to uncover patterns and develop insights. It utilizes a clustering technique where observations are grouped to make it easier to identify the emergence of patterns and themes. Mind mapping activity was used to analyze the answers to the open-ended questions in the survey on compassionate and non-compassionate behaviors, and to uncover elements of compassionate interactions.

- **Empathy Maps**

Empathy maps help designers forge an emotional connection with the user/ participant by connecting the designer with the users' emotional world through his/ her senses. Data from the interviews and the journey maps were used to create empathy maps. A sample empathy map developed for one of the participants is shown in Figure 3.

PRELIMINARY FINDINGS

Some preliminary findings from the research activities thus far are presented below. We refer to the mom participants as M1-M8 and partners as P1-P8.

Feeling Unprepared

Our participants felt that they were unprepared for parenthood and the struggles that came with it. Mothers said they had read pregnancy books, joined Facebook groups and forums, and talked with their friends, yet when it came to taking care of the baby and being a Mom, they felt unprepared, and sometimes, lost.

M1: *"For the first few weeks and even months it was just me and us kind of figuring out how we're gonna just deal with the transition of having a baby, but definitely once he got older and I expressed I need some time alone, I need you to watch the baby or I would love to be able to sleep in a little bit because I woke up five times last night. It definitely took some time for us to figure that out."*

M5: *"I think I wish I knew that the physical recovery from having the baby would be difficult. I wish I knew how hard the lack of sleep was going to be. I wish I knew more about the importance of having a schedule for a baby."*

Communication Struggles - It Was a Two-way Issue

Before and after the birth, participants in our study struggled with figuring out effective ways to communicate with each other. It was not just that the mothers did not know what they needed, and did not want to ask for help or share their feelings - the partners also did not know exactly what the mothers needed.

P7: *"There were some times, particularly when she was pregnant where I had a little bit of trouble understanding what her mood was every once in a while. Of course that was something that either I couldn't tell what she was feeling or it was unclear to me."*

Establishing Communication Strategies Before Parenthood

Participants expressed that they wished they had established communication strategies beforehand.

P7: *"Looking back I think something that would have definitely been helpful through that transition, it would have been helpful if we had established beforehand things we can do to communicate a little more efficiently. If she's not feeling well or she's upset or having mood swings, maybe finding a way to communicate that better so I can understand how to help her a little more."*

This insight can inspire researchers and designers to investigate if interventions aimed at facilitating compassionate interactions between new parents even before their transition to parenthood, can be beneficial.

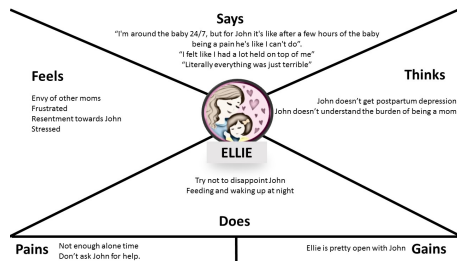


Figure 3: Sample empathy map.

Establishing Routines and Expectations

In instances where the couples did not have set expectations, mothers got frustrated when their partners did not respond the way the mother was expecting them to respond.

M1: *"...when you're in the moment it's really easy to resent them for not doing what you want them to do, but if you have a plan like alright if he[their son] wakes up during this time window, like timeframes, you go. If it's this timeframe I'll go, so to be better prepared and have specific roles."*

The couples who had established their roles, expectations, and even schedules seemed to have a better and more contented relationships. Insights from the data point to issues in communication as the main barrier for compassionate interactions between new parents.

Elements of Compassionate Interactions

Through interviews, journey mapping and the survey we sought to understand what mothers and partners consider to be the essential elements of compassionate interactions. Some of the responses below point to them:

P3: *"If you love somebody, trying to show that through actions."*

P6: *"Doing things that you would want people to do for you."*

P7: *"It seems like a concept where you don't really have to expect anything in return."*

P8: *"I try to acknowledge things."*

M5: *"I feel compassion from him for me when he does things without me asking."*

The next step of this research is to develop design criteria based on the insights gained from the study activities and the collected data. Multiple design ideas to cultivate compassionate interactions through improved communication, will be explored.

CONCLUSION

Informed by the insights gained from this research, I plan to develop a framework for designing compassionate interactions for life transitions. This will be a novel contribution to the CHI community. Research methods, tools used, and the lessons learned from this research can be helpful to researchers working in similar life-transition spaces, be it disease diagnosis, relationship breakdowns, or other challenging life transitions. Additionally this research will bring awareness to an un-examined design space - "Compassion Cultivation for Wellness".

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