"The Personal is Political": Hackathons as Feminist Consciousness Raising

CATHERINE D'IGNAZIO, Massachusetts Institute of Technology, USA
REBECCA MICHELSON, University of Washington, USA
ALEXIS HOPE, Massachusetts Institute of Technology, USA
JOSEPHINE HOY, University of Washington, USA
JENNIFER ROBERTS, Versed Education Group, USA
KATE KRONTIRIS, Independent Researcher, Sierra Leone

Initially conceived as problem-focused programming events, hackathons have expanded to encompass a range of issue areas, stakeholders and activities. There have been important critiques of hackathons in relation to their format and structure, their epistemological assumptions, and their outputs and impacts. Scholars working in Feminist HCI have proposed design considerations for more inclusive hackathons that focus on social justice outcomes for marginalized groups. Evaluative work on hackathons has assessed entrepreneurial contributions, skill development, and affective impacts, but largely absent from the analysis is a view of long-term personal impacts on participants. What kinds of lasting impacts (if any) do issue-focused hackathons have on participants themselves? In this paper, we describe a post-hoc qualitative study with participants and organizers of a postpartum health hackathon in the U.S., one year after the event took place. Our goals were to understand people's motivations for participating, what impact (if any) their participation had on their lives, and how (if at all) their participation shaped how they now understand postpartum health. Our findings indicate that the hackathon functioned as a space of "feminist consciousness raising" in that it provided space for navigating and sharing personal experiences, contextualizing and connecting those experiences to structural oppression, and developing participants' self- and collective-efficacy to create design interventions and enact social change. Feminist consciousness raising is not just "awareness-raising", but rather a specific historic and contemporary practice which we describe and situate in relation to personal experiences of oppression around stigmatized topics. With these findings, we situate feminist consciousness raising in relation to the literature on hackathons and Feminist HCI, speculate which aspects of the design of the event led to it fostering feminist consciousness raising, and generate recommendations for how to intentionally bring feminist consciousness raising to the design of hackathons and innovation events.

CCS Concepts: • **Human-centered computing** → **Participatory design**; • **Social and professional topics** → *Race and ethnicity*; *Gender*.

Additional Key Words and Phrases: Feminism; Gender; Race; Health; Feminist HCI; Hackathons

Authors' addresses: Catherine D'Ignazio, dignazio@mit.edu, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; Rebecca Michelson, rem23@uw.edu, University of Washington, Seattle, Washington, USA; Alexis Hope, ahope@mit.edu, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA; Josephine Hoy, joeyhoy@uw.edu, University of Washington, Seattle, Washington, USA; Jennifer Roberts, jennifer.roberts@versededucationgroup.com, Versed Education Group, Washington, District of Columbia, USA; Kate Krontiris, kate.krontiris@gmail.com, Independent Researcher, Freetown, Sierra Leone.

1 INTRODUCTION

Hackathons—a long-running community practice in open-source groups, hackerspaces, and at companies—remain a popular style of gathering for those engaged with technology, design, and innovation work. These events, often held at universities and sponsored by corporations, can serve as a pathway into associated professional fields by providing networking opportunities and opportunities for participants to develop technical and design-related skills. Alongside technology-specific hackathons (e.g. "Reality Virtually" at MIT, an AR/VR-themed hackathon [1]), there are also a growing number of civic and issue-oriented hackathons (e.g. Code for America's "National Day of Civic Hacking" [41], or "Self-Harmony", a hackathon focused on self-harm [21]).

The authors of this paper have been engaged in the design space around hackathons for the past six years, specifically around organizing hackathons that deal with birth, breastfeeding, and postpartum health, and focus on social justice outcomes for minoritized groups[1]. Hackathons as a form have been critiqued for a variety of reasons, including that they promote technological solutionism, that they are inaccessible and exploitative, and that they rarely produce technology that can be sustained beyond its initial creation [47, 56, 75, 80]. Acknowledging these critiques, we remain motivated by the participatory potential of hackathons as a collaborative design space, as well as their potential to lead to the creation of relationships and technologies (broadly defined) that might engender a more equitable world. We have previously proposed principles to re-design hackathons towards these potentials, informed by values and approaches from Participatory Design and Feminist HCI [54].

Given that hackathons are an increasingly common phenomena, we are interested in understanding and interrogating what is produced by the hackathon. What is the value of gathering in this way? Evaluative work on hackathons has primarily assessed entrepreneurial outcomes (e.g. "how many startups came from this event?") [26, 72] and educational outcomes (e.g. "what are participants learning?") [70]. In their interview study, Porter et al. investigate a broader range of potential outcomes for a hackathon, and suggest that the production work of issue-oriented hackathons also includes "expanded social networks, an exposure to design process, affective experiences, and an opportunity for participants to shape their identities against a cross-sectoral, interdisciplinary backdrop" [74].

In this paper, we contribute to evaluative work on hackathons by investigating the long-term personal and political impacts a hackathon-style event can have on participants. We do this through a post-hoc qualitative study with organizers and participants one year following a postpartum health hackathon in the United States. Understanding these long-term impacts can help us develop further design recommendations to improve hackathon-style gatherings, a mainstay of the technology innovation community. We focused on the following research questions: What were people's motivations for participating in the event? What impact (if any) did their participation have on their lives and relationships? How did their participation change (if at all) their understanding and visions of postpartum health and their role in it?

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[1]We use the term *minoritized* to describe groups of people who are positioned in opposition to a more powerful social group. While minority describes a social group that is comprised of fewer people, minoritized indicates that a social group is actively devalued and oppressed by a dominant group, one that holds more economic, social, and political power. With respect to gender, for example, men constitute the dominant group, while all other genders constitute minoritized groups.[48]

Our prior work has described the design principles we used in organizing a large-scale, equity-focused breastfeeding hackathon [54]. Here, we follow-up on that work with analysis of in-depth interviews with ten participants in that event, along with interviews with organizers of innovation events in the postpartum health domain (2 interviews and 1 focus group). Building on feminist conceptions of reflexivity, we include ourselves as interview subjects. This follows decades of feminist scholarship that insists that researchers' identities, positionalities and relationships with the research subjects matter to the research and should be included as an object of study [23, 38, 61, 62].

From this empirical work, we describe themes that emerged at three scales ("the personal," "growing towards the political," and "the political"). Our findings indicate that the hackathon functioned as a space of "feminist consciousness raising" in that it provided space for navigating and sharing personal experiences, contextualizing and connecting those experiences to structural oppression, and developing participants' self- and collective-efficacy to create design and policy interventions and enact social change.

Feminist consciousness-raising—a specific historic and contemporary practice that we describe in section 2.2—has much to offer contemporary innovation events such as hackathons, design sprints, and jam sessions which aspire to co-design with minoritized groups. In consciousness raising, individuals share and listen to personal experiences of oppression (often having to do with stigmatized topics), connect those experiences to structural and political forces, and leverage new understanding to build solidarity across differences and toward political action.

Our discussion includes reflections on hackathon design choices that may foster feminist consciousness raising and when feminist consciousness raising might be a useful technique for other researchers and designers in the CSCW community. Our findings also surface connections between feminist consciousness raising and trauma, leading to open questions about healing and how to design trauma-informed hackathons.

2 RELATED WORK

This section elaborates on three areas that we are drawing from in this research, including the literature on evaluation work related to hackathons, Feminist HCI as relates to stigmatized topics, and feminist consciousness raising.

2.1 Impact of Hackathons

Hackathons — "problem-focused programming event[s]" [89] — are a mainstream style of community gathering within the technology community [88]. Several hackathon organizers and researchers have taken on the question of what is produced by the hackathon as a form, investigating entrepreneurial, educational, and personal impacts on participants.

In "Hackathons and the Making of Entrepreneurial Citizenship," Irani (2015) argues that the hackathon "orient[s] toward Silicon Valley for models of social change" [56]. Indeed, some researchers focus specifically on evaluating the entrepreneurial impacts of hackathons. Nolte (2019), for example, analyzed a data-set of 44 hackathons over three years and 489 start-ups in Estonia, with the goal of understanding "the temporal connection between founding a start-up and participating in one or multiple hackathons" [72]. The study found that hackathons do not always act as a pathway towards entrepreneurial activity, but that they may be useful as a recruiting tool for later-stage start-ups.

Nandi and Mandernach (2016) evaluated the educational impacts of two hackathons held at Ohio State University [70]. Focusing on peer-learning outcomes, the research team conducted post-event surveys, asking participants to rate the event on a scale from 0 - 5 as well as to give their qualitative feedback. In addition to these surveys, the authors analyzed student academic records and source-code commit log data, as proxies for long-term educational impact and collaborative

activity between teams, respectively. Interview data suggested that developing industry-facing skills and teamwork experience were major learning outcomes.

Beyond entrepreneurial and learning outcomes, Porter et al. (2017) present a study that suggests a broad range of additional personal impacts from a hackathon [74]. Drawing from interviews with organizers, participants, and volunteers at a "CHI4Good Day of Service" Hackathon, the research team outlined impacts on participants' technical capacity and expertise, social networks, knowledge of the design process, affective experiences, and identity formation. Based on this evaluation, the authors reflect on implications for the design of philanthropic hackathon-style events for the CHI community.

We contribute to existing approaches to evaluating hackathons by offering a feminist approach to hackathon evaluation that centers participants' lived experiences, the relationships they developed at the event, and their perceptions of their own transformation (or not) in the year following the event. We explain these choices further by drawing from Feminist HCI, particularly as it has been applied to minoritized bodies and stigmatized issues.

2.2   Feminist HCI for minoritized people, stigmatized issues

Feminist HCI is a framework originally elaborated by Bardzell [17, 18] drawing from feminist theory. She suggested five key qualities that contribute to feminist design: pluralism, reflexivity, participation, ecology, and self-disclosure. Feminist HCI has had a wide impact in studies related to women's health [6, 14], emancipatory design [19] and our understanding of gender and design [27, 83]. It has also been extended to include intersectional concerns developed by Black feminist theorists—that is to say, design approaches that consider how experiences of oppression exist at the intersection of multiple, interlocking forces of oppression such as racism *and* sexism [42, 73, 76, 81, 92, 93]—as well as design technologies for trans* and non-binary users [2, 58].

In this study evaluating the impact of a feminist hackathon, we build on prior Feminist HCI work with minoritized people related to stigmatized issues. Many topics relating to women's and gender-non-conforming people's reproductive health and well-being are stigmatized and therefore avoided, underfunded, and understudied. When these topics are studied, researchers have elaborated how they must navigate the effects of stigma sensitively and carefully because of the feelings of shame, isolation and pain stemming from negative experiences. Topics that fall into this category include sexual assault [9, 84], abortion [69], miscarriage [7, 8], urinary incontinence [6], gender-transition [49, 50], domestic violence [20], birth [10], breastfeeding [13, 31, 34, 91] menstruation [24, 39, 65], fertility [32], sex work [85], sexual well-being [3, 60], human trafficking [44], and more.

Feminist HCI necessitates a commitment to minoritized people's lived experience as well as "embodiment" (one of Bardzell's five qualities of feminist design). Prior research on stigmatized topics has explored methods for creating environments where vulnerable populations can share difficult personal stories. For example, Ahmed [4] found that survivors of sexual harassment were less likely to share stories on a digital platform but more likely to share in an all-women intimate workshop setting. Gautum et. al [44] designed a communal form photo-elicitation to learn about the experiences and concerns of survivors of sexual trafficking. Other Feminist HCI work has built the sharing of lived experiences into the design of platforms and interactive technologies [13, 37]. Finally, Feminist HCI researchers have valued lived experience by undertaking intentional and sensitive co-design with particular groups such as breastfeeding parents [91] and sex workers [85]. These relationships between researchers and vulnerable subjects, mediated by participatory design practices, are complex and involve differentials in social power, and have themselves been the focus of much research and reflection [36, 40, 45, 52].

For us, this commitment to lived experiences informed our choice of evaluation methods. Building on the centrality of lived experience to Feminist HCI, we chose to evaluate the event based on

personal transformation and impact to participants own lives. We base our hackathon evaluation on participants' personal experiences–what brought them to a hackathon about birth and breastfeeding, who they developed relationships with, how their perceptions of the postpartum health domain shifted (if at all) in the year following the event, and how their perception of their role in creating a better world for breastfeeding parents shifted (if at all). Second, knowing from our own lived experience that we, the organizers, were transformed by undertaking this project, we include ourselves as interview subjects. This follows Bardzell's feminist qualities of "reflexivity" and "self-disclosure" as well as a long line of feminist scholarship that insists that researchers' identities, positionalities and relationships with the research subjects matter to the research and should be included as an object of study [23, 38, 61, 62].

2.3 Feminist consciousness raising

The feminist slogan "the personal is political," comes out of Western feminisms in the 1960s and 1970s, a period of time some scholars characterize as second wave feminism [64]. The phrase originated in an essay of the same name by activist Carol Hanisch in 1970 who wrote about the practice of "consciousness-raising" during this period of time as a mass-organizing tool [51], "Consciousness-raising was a way to use our own lives—our combined experiences—to understand concretely how we are oppressed and who was actually doing the oppressing. We regarded this knowledge as necessary for building such a movement."[51]

Validating personal experiences of oppression as the beginning of political consciousness and the basis for collective action was a key strategy for consciousness-raising groups. It is also central to the intellectual history of Black feminism. In their famous 1977 statement, the Combahee River Collective asserted, "There is also undeniably a personal genesis for Black Feminism, that is, the political realization that comes from the seemingly personal experiences of individual Black women's lives."[87] While Kimberlé Crenshaw had not yet coined the term *intersectionality*, the Collective described how their own consciousness-raising practices went beyond those of white women, because they surfaced concerns around race and class in addition to gender. Contemporary scholars agree with Combahee—Jacqui Shine writes that Black feminist Lori Sharpe's guidelines for consciousness-raising from 1975 "are remarkable because they assert a model of CR that is more expansive, more rigorous, and, most powerfully, more communal in its orientation than anything white radical feminists might have envisioned." [59] Patricia Hill Collins would later describe how Black feminism had to start with the experiences of Black women because their concerns, questions and culture had been so routinely excluded from dominant discourse (as well as from white feminist spaces) that it constituted *subjugated knowledge* [30].

Personal	Growing Towards the Political	Political
Begins by sharing personal lived experiences and feelings	Listen to others' experiences	Connect stories and experiences to a more inclusive political vision
Makes space for sharing about topics considered taboo or private	See and discuss patterns of structural oppression across personal stories	Begin to take steps, collectively, towards that vision

Table 1. Model of Feminist Consciousness-Raising, derived from the *Combahee River Collective Statement* (1975) [29] and *Trying to Make the Personal Political: Feminism and Consciousness-Raising* (2017) [59].

Consciousness raising groups were small gatherings of people, usually from similar gender, age, race and socioeconomic backgrounds, who would meet regularly to discuss personal experiences of

oppression [59]. Consciousness raising groups took place across the US in the early and mid-1970s. Women who had been participating in other social movement work at the time had found that they were belittled for bringing gender oppression into the public sphere—they were told that these were 'personal problems' not worthy of political action [79]. In response, feminists doubled down to assert that "our politics begin with our feelings"[78]. Emotions are central in a consciousness raising group – a short guide to running a consciousness raising group mentions "feelings" more than 100 times [59]. The goal of consciousness raising groups was to unpack those feelings and experiences and connect them to broader patterns of oppression faced by many people in order to formulate political solutions. As Hanisch writes, "One of the first things we discover in these groups is that personal problems are political problems. There are no personal solutions at this time. There is only collective action for a collective solution."[51]

How do consciousness raising groups relate to contemporary feminist agendas? Feminist scholars have shared their own personal stories and situated them against patterns of abuse and discrimination [66, 68]. There has been scholarship interrogating the relationship of feminist consciousness-raising practices to today's social media practices, particularly as individual expression has been co-opted to provide financial rewards to large digital platforms [78]. And scholar Sara Ahmed sees a revival of consciousness raising groups in the cataloging practices of websites like *Everyday Sexism* (or, for an example from the HCI community, Hollaback [37]). She locates the reason for such a revival in the fact that sexism simply is not over. Consciousness raising groups have multiplied in both place (from physical gatherings to include digital spaces) and form (from small, intimate groups to also include hashtags or crowd-sourced projects). Thus, contemporary scholars articulate the on-going utility of consciousness raising to the goal of gender liberation. Building on Feminist HCI, one of the goals of this paper is to directly introduce feminist consciousness raising to the HCI community and reflect on how we might intentionally design hackathons and other innovation events in order to foster it.

3 METHODS

Aligned with the principles that underpin feminist consciousness raising, our qualitative methods aim to explore the individual and collective experiences, changing perceptions, and relationships developed by participants in a hackathon about breastfeeding organized by the authors of this paper. We have described the process and design principles behind the event in our work "Iterating Feminist Utopias" [54]. While hackathons have been evaluated on their entrepreneurial and learning outcomes, there has been less work examining personal impacts, including shifts in perception, development of relationships and transformation in political consciousness resulting from hackathons. What was the value of gathering in this way for participants themselves? One year later, what do they see as the impacts on their lives and on their role in birth and breastfeeding justice?

During the design of this follow-up study of participant experiences at and following the event, we reviewed materials generated by participants prior to, during, and after the April 2018 event. These background materials included applications to participate in the hackathon, survey responses to a survey administered immediately after the event, and postcards that participants wrote to themselves during the event. The postcards described individual and collective commitments to postpartum justice and were mailed to participants by the organizers three months after the event. These collected materials speak to participants' motivations and hopes prior to participation in the hackathon, the concerns and values that were most salient for them for them during the event, and personal or professional connections that developed from having attended.

These background materials were used to identify potential points of interest and develop our semi-structured interview protocol as well as to guide recruitment criteria, ensuring that a range

of attendee roles and personal backgrounds (including racial identity, geographic location, role at event, and parenting status) were included in our interview sample.

Semi-structured interviews (n=10) conducted with event participants. We conducted follow-up interviews to explore participants' stated motivations for participation in the event, experiences of the event, and any shifts in perceptions and attitudes that resulted from said experiences. During one-hour, semi-structured interviews conducted by phone, participants were prompted to reflect on their experiences, including their personal motivations for joining the event, learnings from the hackathon or policy summit, life changes since the event, any hopes for the future of breastfeeding in the United States, and what they perceived their role to be in bringing about that future. Interviewees were recruited to reflect the gender and racial makeup of the hackathon (around 70% people of color, around 90% women), to reflect the geographic diversity of attendees, and to ensure representation of varied participant roles in the event (such as whether they had contributed to the artist gallery, participated in a "community innovation team" program that supported teams' work prior to the event, or whether they joined as product exhibitors or as event advisory board members). The interviewees were in their 20's-40's and more than half identified as parents. None of the participants interviewed had been part of a hackathon previously. Only one interviewee had a professional identity as a designer. It may be important to note that the hackathon had its own design principles guiding selection of participants described in [54] and it was deliberate in its incorporation of professional expertise and parent perspectives. While we selected participants to represent a range of perspectives at the hackathon, they do not represent all perspectives from the event and the hackathon itself was not representative of the U.S. population.

Profiles of semi-structured interview participants are summarized in Table 1, following the method of characterizing interviewees used in [25].

Name	Racial Identity	Description
Frida	Mixed race, bi-racial	Product exhibitor; Works at small lactation start-up company on the East Coast.
Lakisha	Black	Artist Gallery; Photographer and mother from Alabama, now living on the West Coast.
Krissy	white	Hackathon Participant; Design & innovation professional in a large corporation in the Midwest. Mother of 5.
Fern	white	Hackathon Participant; Breastfeeding researcher and LGBTQ parent from the UK.
Cara	African-American; Black	Research subject and Hackathon Participant; shared her story at event. From New England.
Todd	white	Innovator's Gallery, Small start-up founder, Parent, Financial Analyst in New England.
Malia	Native American and Black	Community innovation team member, Indigenous community organizer for reproductive justice in the Southwest.
Audrey	Black American	Advisory Board; Public Policy Director for a nonprofit in California.
Anjanette	Black; African-American	Community innovation team leader, Maternal Health Program Director providing social services to families in the Detroit area. Parent.
Tatiana	Black; African-American	Hackathon Participant; Professor of public health based in the South.

Table 2. Profiles of semi-structured interview participants. Racial identity is self-reported.

Focus group conducted with ourselves. While traditional researcher-subject dynamics imagine that researchers are on the outside looking in, feminist research methods consider the researchers themselves to be an integral part of any knowledge production, worthy of careful observation and reflection [67]. Consistent with the feminist method of *reflexivity*[2], we conducted a two-hour, semi-structured focus group via phone with our six-person organizing team. Our profiles are summarized in Table 2. This focus group was facilitated by a seventh research collaborator, who was not part of the event organizing team. We posed the same questions to ourselves as we posed to participant interviewees. This was a continuation of how we had worked together during the project using regular and reflexive gatherings to discuss equity and identity. It is also a recognition that all six of us had personal stories that motivated us to undertake the work, and that our own political consciousness had been transformed in the process.

This follows in a long tradition of feminist scholarship which asserts that researchers' positionalities, as well as their relationships to research subjects, shape the knowledge being produced [23, 38, 61, 62, 67]. While there have been important critiques of reflexivity as method, feminist scholars continue to assert its relevance for empirical and field-based work where researchers need a means of accounting for how they are "inserted in grids of power relations and how that influences methods, interpretations, and knowledge production" [86]. Researchers' positionality is increasingly noted or examined in HCI and CSCW, particularly with justice-oriented work, yet including researchers themselves as research participants is not the norm. Our approach here of revisiting our own hackathon not only to evaluate its impact on participants, but also to account for personal impacts, offers one method of implementing reflexivity and incorporating it into the foundation of design processes or qualitative research studies.

Name	Racial Identity	Description
Nia	Black	Equity consultant. Equity lead for the hackathon.
Olivia	white	Designer and researcher. Design lead for the hackathon.
Caroline	white	Professor. Director of the hackathon.
Rachel	white	Graduate student, design-researcher. Project manager for the hackathon.
Athena	white	Independent researcher. Research lead for the hackathon
Imani	Black	Independent consultant. Policy lead for the hackathon.

Table 3. Profiles of focus group participants. Racial identity is self-reported.

Semi-structured interviews (n=2) with organizers of other birth and postpartum innovation events. To explore perspectives and processes beyond our own hackathon, we also interviewed organizers of two other maternal health innovation events in the United States. We asked them to reflect on intentional design choices, organizing strategies, and any personal learnings and transformations they encountered as a result of their work.

After living through a birth trauma herself, one interviewee, Whitney Robinson, began organizing events across the United States called "The Renée"[77]—intimate jam sessions for women of color to share their stories and create maternal health solutions, in settings of joy and creativity. Whitney identifies as an artist and designer and also works at a tech company. The second interviewee, Kiddada Green, is the Executive Director of the Black Mothers Breastfeeding Association in Detroit. She spearheaded a birth and breastfeeding hackathon [11] to co-create solutions that address infant

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[2]Here we define feminist reflexivity as "the ability to reflect on and take responsibility for one's own position within the multiple, intersecting dimensions of the matrix of domination." [35]

mortality rates for Black families locally. Both are Black women over 30 and requested not to be anonymous in this research.

3.1 Data Analysis

All interviews were audio-recorded and transcribed. Using the background materials that guided the protocol for the semi-structured interviews, the research team created a preliminary *a priori* code book [46]. Prior to coding, researchers listened to the audio from the interviews in order to gather context around tone and sentiment, which informed the creation of additional codes. The team then followed an open coding process, adding emergent codes to the *a priori* codebook. During coding, all interviews and the focus group were labeled using the qualitative analysis platform ImpactMapper. Each interview was independently coded by two researchers. This was not intended to ensure *inter-rater reliability* or attempt to reduce subjectivity in coding, but to increase researchers' exposure to data, prompting new connections and discoveries and supporting team discussion of emergent codes. Emergent codes were discussed as a group. Themes were then generated from codes, and we began to note connections between themes.

Prior to data collection, we received approval for this work by our University's Institutional Review Board. All interviewees, including ourselves, provided informed consent. Additionally, all quotes and characterizations were cleared with interviewees before submission to ensure that what we were writing was consistent with their experiences and the intended meaning of their words.

4 RESULTS

We discuss the themes that developed from our data at three scales that relate back to the model of feminist consciousness-raising: the personal, personal growth towards the political, and the political/collective.

4.1 The Personal

4.1.1 Personal lived experience brought participants to the event. Each of our interview subjects, as well as the members of our organizing team, shared a personal reason for becoming involved in innovation events that came directly from their lived experiences, and often involved trauma and intense emotions due to gender and race-based oppression. In referencing this self-described trauma[3], along with intense emotions, like isolation, frustration, anger and self-doubt. For several, the motivation for participating in the event was the birth and breastfeeding difficulties that they themselves had experienced. For example, Fern described latching issues, "So, I couldn't nurse at the breast, she couldn't latch and I thought, oh, I'll just use a breast pump, it'll be fine. Of course, I'd never even heard of exclusive pumping before, which is actually what I found super common in my research." Athena's first child had a particularly intense form of jaundice requiring phototherapy, which made breastfeeding extremely difficult since she had to be physically separated from her baby. Other people experienced difficulties with breastfeeding amidst other home and work circumstances. As Cara described, "I had a rough breastfeeding experience, being a first-time mom, and stuff. I was living in a shelter and trying to breastfeed, and deal with the shelter life."

In some cases, people described direct loss—for example, one organizer of innovation events, Whitney, described her loss of a child late in pregnancy, "...to this day, if I really think about it, I'll just bawl. Like I'll cry." Lakisha described how she had undiagnosed postpartum depression and had to return to work before healing from birth:

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[3]By *trauma*, we refer to psychological literature, which describes traumatic experiences as those which "overwhelm the ordinary human adaptations to life" and "confront human beings with the extremities of helplessness and terror, and evoke the responses of catastrophe." [53]

"I don't even think I stayed off the whole six weeks because I didn't know if I was going to have a job or not. Like, I had to go back! You know, so I never got the adequate time to stay at home with my child. I never had the time to heal. And, I went through a depression. I went through an emotional roller coaster, to the point where it almost led to suicide. I was even afraid to keep my child because I was so mentally messed up!"

4.1.2 Witnessing and listening to others' struggles brought them to the event. Those who were not birthing or lactating parents described watching their friends, partners, or co-workers struggle. Todd described his partner's struggles, "And because [my partner] had a supply issue, she was pumping at all hours...And I would be like, 'Oh, my God this is so fricking loud! This is asinine; there's got to be something that can be done.'" One of the co-founders of our event, Olivia, not yet a parent, described how a colleague's ordeals shed light on a set of experiences she hadn't encountered, "For me, I guess it was just about hearing other people's stories. Like first Caroline's and then all those emails we got from people all over the country kind of like opening up this world that I didn't even know existed." Those personal stories led to our first research on the topic [34].

Interviewees also described how upsetting it is to witness others' traumatic experiences. Krissy, who is an innovation engineer, detailed how she attempts to aid new parent colleagues by listening: "Just this week, a woman who is junior to me came back to work and she has an eight-week old and was sobbing, of course. She was holding it together and then just started breaking down and crying. It struck me how painful it is that we send moms back to work so early." Malia got involved with breastfeeding innovation after hearing about the experiences of the Native American elders in her family, "My mom talked about how they were just never given the care that they should have been given. Their basic necessities. So, for me, it was very, very, very upsetting."

4.1.3 Gender- and race-based oppression factored into their personal stories. People consistently surfaced gender, race and structural oppression in describing these personal stories and the intense emotions that surrounded them. Krissy described her reaction to using poor quality breast pumps, "'What do we use for cows? Let's give this to moms' It just outraged me. I can't believe it—if men had to use this, there's no way it would be so terrible." For Audrey, hearing about her friend's mother lose a child solidified her commitment to work on health disparities, "And so that's part of why I got into maternal and child health in the first place... After I heard about [the loss of the baby], sort of affirming that Black infants are more likely to die before their first birthday." And Anjanette, whose business provides postpartum support to families in the Detroit area, described her commitment to her community, "when it comes to my personal community—who are often marginalized and oppressed—I work that much harder. And so, because our primary population are families of color, I know that I want to be able to do my part in ensuring that babies who look like me live."

While people recognized that there was structural oppression underlying their personal stories, they also expressed challenges they faced in dealing with it. Many communities do not necessarily welcome conversations about race, gender and health. Lakisha described her environment, "Like, where I'm from in Alabama, you don't really have a lot of Black people that's fighting for change for African-American people. Like, that's what it is. It's a controversial conversation that people really don't want to have. It's uncomfortable." The fact that all interviewees, including ourselves, had a personal reason for getting involved is consistent with other participants in the event. For example, 47% of applicants to the hackathon (204 out of 437 total), had shared a personal story (which were not directly solicited) to explain their motivations for participating.

While interviewees described feelings of trauma and intense emotions arising from their personal experiences, they did not consider themselves victims. As Whitney stated, "That was a defining

moment in my life that changed the trajectory of my life. The pain is always still very real. But, for me, it's a matter of what am I going to do with the pain."

4.2 Learning and growing towards the political.

Our second major category of results concerns shifts that participants and organizers describe in their attitudes, perceptions and understanding of breastfeeding and birth justice from participating in the hackathon (or organizing their own innovation events, in the case of the two organizers that we interviewed).

4.2.1 Participants connected their stories to structural patterns. First, people described how they began to connect their own personal stories to more structural patterns. Whitney explained how organizing jam sessions with Black women around the country helped her realize how common her own experience of loss was,

> "But what I realized, too, is it happens to a lot of people. And so doing these jam sessions has shown me the trauma that especially women carry in their minds and their body as they try to go through and be 'normal'. And I say that in quotes...What does normal look like? And what is normalcy after you've had traumatic birth experiences or whatever your pregnancy experience has been?"

While those who experience trauma often blame themselves [90], interviewees described how they started to see how what they experienced was the result of structural, not individual, failures. Malia expressed the surprise she felt at the event upon learning that the breastfeeding barriers faced by her Native community were similar to others': "At the time, I thought we were the only ones. And, getting to the hackathon, in the beginning, I was like, 'Oh my god! This is really happening everywhere else. This is happening to other people in other communities!' So, that's when the issue becomes bigger, when it's not just you." In the case of the authors' hackathon, we incorporated policy "hacking" in the form of a discussion about paid leave. Krissy, who had been applying her engineering skills to making better pump shields, outlined how learning about policy at the hackathon helped her realize the scope of the problem, "I had not even considered how much the Family Medical Leave Act policy connects to all of this—how outrageous that it is that we send moms back to work so early. So that was really impactful—I realized it's a much bigger problem." Identifying structural and political forces at work was one way that participants moved from the personal to the political.

4.2.2 Participants learned about intersectional similarities and differences from listening to stories of others. Participants not only connected their personal stories to structural patterns of similar stories, they also described how they learned from others' personal stories that were different from their own experience. For example, Nia, an organizer, stated that she gained a deeper understanding of Black mothers' experiences, "...I had a certain level of understanding because of my personal experience. But once we plugged into a community of people who were working more deeply, like there were these other things that I learned that didn't necessarily personally apply to me, but did apply to my community and people who looked like me." In this way, participants started to move from the personal to political by seeing their experiences mirrored in others' experiences. They started to see themselves as part of a larger group that was previously invisible to them, providing a social identity to something that had previously only been a personal experience.

Because the event brought together people from different demographics and stakeholder positions, participants made these connections across intersectional lines of difference. For example, Tatiana, who is a public health researcher, commented that she appreciated learning about Native women's experiences, "Native women are so unseen and unheard in the national conversation. I really

appreciated just having them in the room, you know?" Nia stated that personal stories helped her appreciate the extent of participants' work in their communities, "I don't think I realized some of the lengths that some of the folks that came to the conference or that were parts of our community innovation teams had to go through in order to help the women they were trying to help. So that was definitely eye opening for me."

4.2.3   Participants learned about intersectional needs from observing the design ideas of others. For many participants, these kinds of intersectional realizations came to the forefront when they saw the design ideas that different groups were working on. Krissy describes the range of ideas, "my mind was exploding. There are so many things that I had not considered in terms of people's personal stories." Audrey expressed a similar sentiment, "...there were a lot of ideas that were...thrown out that I thought, wow, this is—I would have never thought of this. I didn't realize that this could be an issue." Both Tatiana and Audrey mentioned that a team working on a breast pump system for visually impaired parents, with tactile feedback, made a big impression on them. "It was a real reminder," Audrey said, "to take ability into account in the design process." Thus, design aided participants to move from the personal to the political because it exposed experiences of oppression that needed to be accounted for in any kind of collective solution to the problem at hand.

4.2.4   Participants from dominant identities became more aware of their privilege. Many of the people we interviewed who sit at the intersection of multiple dominant social positions (white, professional, cisgender, abled), spoke about how they became more aware of their own privilege through listening to others' stories and design ideas. Krissy described the beginning of the innovation event which involved storysharing, "...we started with the experiences of women who had very different experiences from mine...I think it left me feeling—it just put me in a disruptive position, which is good. It created tension that I didn't know how to reconcile, which I think is positive." Audrey discussed how hearing stories from people in many different US states helped her contextualize California's more progressive breastfeeding climate, "One of the things that shifted for me was just reminding me that I live in a California bubble." We interpret this emerging awareness of privilege as growth towards the political, since people often do not understand their personal experience as privileged unless they understand how it is different for others (this phenomenon has been described as the "privilege hazard"[35]). Thus, an individual's personal experience becomes a matter of political concern around differential treatment, where she had not previously conceived of it as such.

4.2.5   Participants saw design as a "healthy bridge" to addressing oppression. A final dimension of learning and growing from the personal to the political has to do with participants and organizers' realizations of the role that design can play in dismantling oppression. Frida exemplifies this realization,

> *"...one of the things that I learned—not necessarily that I didn't know before, but was reinforced—was this idea that these systems that produce inequity in the world were designed. And so when we think about how to solve these problems, it requires us to redesign native systems that are not based on putting one group of people down or lifting one up."*

Caroline, one of the organizers, expressed concern about only focusing design on harm reduction when the problems are often larger and more systemic than a single device or technology could address,

> *"I think where I get nervous about design is where if we ended up always just focusing on harm reduction, we end up in some kind of like complicity I feel like with these unjust systems...I just feel like we have to be thinking about multiple scales at all times..."*

No interviewee thought that design solutions alone would "fix" major problems in birth and breastfeeding justice, but rather that they could be a "healthy bridge", meaning a collaborator across different sectors and communities, as Tatiana stated, "But seeing, again, how entrepreneurship and innovation from everyday people can help solve problems—not saying that they're the complete solution, because a lot of times they are a healthy bridge, and definitely important—I think it's kind of inspired my own kind of entrepreneurial thinking."

4.3 The Political

In this section, we use a conception of "the political" that draws from a long history of feminist work that has challenged the false binary of the private/public, in which the relegation of issues to the private or personal sphere is used as a mechanism of oppression [94]. In contrast, feminist consciousness raising draws personal experience towards the political—a "making public" and building solidarity around issues that were previously neglected, stigmatized or belittled for being too small, too personal or too lusciously liquid for political action.

4.3.1 Participants described feelings of confidence, empowerment, and solidarity. We see this "making public" surface in our results in several ways. First, many participants and organizers stated that they developed feelings of confidence, empowerment, self-efficacy, and solidarity from participating in (or organizing in the case of organizers) a hackathon.

Frida described how the hackathon helped her become "braver to bring up issues of equity and inequality in the workplace—So I think that I gained a lot of confidence from participating in the event..." and Anjanette explained that she now understood how her work could have wider relevance and impact, "...after the hackathon, I realized that I could really impact, on a higher level—use my power and my voice —to impact change at a national level, because the hackathon was my first experience at national exposure." After participating in the hackathon as well as follow-up advocacy work in DC, Tatiana described feeling empowered to advocate for her community using her public health research, "Tying my passion with my work, and being able to not be afraid to call my stakeholders and my representatives, or do all of these things."

4.3.2 Some participants formed long-lasting relationships. Many participants described how the most empowering takeaways did not come necessarily from the event itself but rather from the specific relationships they formed with other participants, which have been sustained in the year following the event. Athena reflected on a photograph of the six organizers taken at the end of the event, "I was extremely tired but it was also a very satisfying, authentic experience of sisterhood, partnership, and collaboration with a group of really talented women." Malia described her feelings after meeting the 12 other people from community innovation teams, "...we all realized, 'oh my god, we can all do this together! It's going to happen!' And, it did happen then. Now we're all very, very close." She described how she talks regularly with the teams on Facebook and catches up at conferences. Frida also elaborated how the event brought her closer to one of her professional heroes and how they have now become good friends:

> *"we've been able to go to participate in a lot of conferences together over the last year and a half since we've met. And I think she's had similar kind of—not necessarily like awakenings—but just empowering feelings and so like to go through the journey together and to reflect on those types of things together has been really helpful and powerful."*

These relationships have led to new projects. For example, Lakisha is planning a new creative project with an artist that she met at the event. Audrey's non-profit is collaborating with a non-profit she met at the event on a project about Black maternal health in California. Anjanette recently

collaborated with Kiddada to organize the hackathon for Black families in Detroit. At that event, organizers Nia, Olivia, and Rachael served as facilitators and technical support.

4.3.3   Participants expressed visions for a more just future and described their role in it. The majority of our interviewees expressed hope for a better collective future for breastfeeding and postpartum health. People's visions for the future included normalizing breastfeeding and birth, providing support and information at many levels, changing paid leave policy, and creating space and time for healing. Everyone we asked felt that they had a role to play in realizing a better future. Some of these roles were modest—Cara, who is working to balance life as a single mom and biomedical student, saw her role as providing encouragement to her immediate friends and family. Todd, who quit his job to try to sell his breastfeeding product, described how he still wanted to help normalize breastfeeding, but had to go back to work because of financial setbacks with the business.

Others were more optimistic, and they shifted back and forth between talking about the political and the personal, the individual and the collective, simultaneously. Whitney stated her ambitions for her jam sessions, "My goal is for this to be a global thing. I think women all over this world would benefit in being the drivers behind their own care." And Frida saw her role as encouraging people through collective solidarity and regular gatherings, "I think that a lot of times my personal mission is just to give people encouragement and hope about the future. That these problems are really big problems, but there are people that are working really hard to solve them. And the more we can see each other, the easier it is for us to work together and to keep working."

In reflecting on how her personal experience shaped her participation at the event and how she saw the future of breastfeeding, Lakisha stated,

> *"So, I'm glad that I did go through what I went through because it made me a survivor. I'm not a victim, I'm a survivor of that. I came through. And, some people don't. Some people don't get that luxury... There's billions of dollars out there, so we definitely can do better...But, I do think it's going to take more women sharing their stories and talk about it. But, first you have to understand what it is. If you don't understand what it is, you don't know how to address it and how to deal with it."*

For us, this single quote helps draw together the main findings from our interviews. Personal experiences of trauma around birth and breastfeeding brought participants to the event, but participants were not defined by their trauma ("I'm not a victim, I'm a survivor of that"). The hackathon functioned as a space for feminist consciousness raising to help individuals place their private experiences in public context ("women sharing their stories"), connect those experiences to issues of structural oppression ("If you don't understand what it is, you don't know how to address it and how to deal with it."), and take action with others to create change. There is more work to be done, but participants articulated how, by sharing stories and building relationships, that work can be done together. ("There's billions of dollars out there, so we definitely can do better...")

5   DISCUSSION

We set out to answer the question: One year following the event, what was the impact of this particular feminist hackathon on participants' lives, relationships and perceptions of the postpartum health domain? Rather than evaluate the hackathon based on our team's goals, we wanted to assess emergent and longer-term outcomes on participants following the event. In our interviews, we found themes that were consistent with the concept of feminist consciousness raising: personal experiences of oppression that brought participants to the event, an experience of learning and growing towards the political through encounters with other participants and their design ideas, and experiences of increased feelings of self-efficacy, collective empowerment and courage to

address postpartum health "in public." While feminist consciousness raising was not an explicit design goal for this event, it was a clear emergent impact of the event for participants themselves.

In this section, we build on prior work to discuss some of the event qualities that may have fostered feminist consciousness raising, grounded in prior HCI literature, as a way of thinking towards designing explicitly for the goal of feminist consciousness raising. We also reflect on when, in HCI research, it may be appropriate to design explicitly for feminist consciousness raising. Finally, we reflect on how the event and our follow-up interviews surfaced stories of personal trauma resulting from systemic oppression, and we advocate for more research into a trauma-informed approach to hackathons and innovation events, particularly when working with minoritized groups and stigmatized subjects.

5.1 Hackathon qualities that may have fostered feminist consciousness raising

5.1.1 Sharing and valuing personal stories. Feminist consciousness raising begins with and is centered on lived experience, communicated through sharing and listening to personal stories. Throughout the hackathon event, personal stories of birth, postpartum care, and breastfeeding were upheld as valued, important evidence of both design challenges as well as personal agency and resilience. The kick-off night included the launch of a design book with 27 postpartum stories from women around the United States. Every person attending the hackathon was given a copy of the book to help seed their creative process. The evening featured five of the women from the book in a live, on-stage event where they told their stories. Note that a different design choice would have been to present lightning talks by five "experts" (people who work professionally and/or have credentials in postpartum care). But we felt that it was important to elevate lived experience as its own kind of expertise, as a way of modeling for participants whose voices are the most important in the design process. The hackathon also included visual storytelling in the form of large photographs of parents from a variety of race and gender identities pumping and breastfeeding.

As we described in the Related Work section, Feminist HCI implies a commitment to lived experience and embodiment. Personal stories that derive from embodied experiences of gender and race-based oppression have played an important role in Feminist HCI research. Sharing and listening to personal stories at workshop events has been used as a method for the research community to better understand a stigmatized topic, like sexual harassment [4]. Analyzing social media accounts of menopause and gender-transition has also been used as a way to create designs informed by lived experience [16, 65].

But beyond deepening knowledge and informing designs in the academic field of HCI, who are the personal stories for and what purposes does sharing them with others serve? Researchers have posited that the sharing of personal stories of oppression has political and possibly emancipatory ends for the sharers themselves as well as for listeners. While they have not drawn from feminist consciousness raising directly, some have found that this sharing may aid the formation of broader collective political goals. For example, work by Clarke and Wright [28] shows how digital stories created by survivors of domestic abuse might promote empowerment for the storytellers as well as mobilize cross-cultural understanding. Researchers have made the point that who is speaking and who is listening matters deeply–in their paper bridging critical race theory with HCI, Ogbonnaya-Ogburu et al. narrate their own stories of race-based oppression in order to expose how racism surfaces in the field of HCI [73]. In Michie et al's work [69], the group prototyped a platform for using personal stories in pro-choice abortion advocacy work and found that participants saw personal narratives as a way to "break the silence" in a culture that considers abortion a taboo topic. And Dimond et al's work on the Hollaback platform [37] found that when users' read stories of others' experiences of street harassment on their platform it helped them feel like their own experience of harassment was not their fault, which "helped shift the blame and burden of the

experience." In their discussion, the authors use social movement literature to talk about this as "frame transformation"–those who experienced oppression shifted from believing it was their individual problem to viewing street harassment as a collective problem. Drawing from a feminist theoretical lens, we call this same phenomenon feminist consciousness raising and assert that it is an outcome worth designing for at hackathons and innovation events about stigmatized issues.

5.1.2 Intentionally structure equity. In the model of feminist consciousness raising presented in Related Work, personal stories help to move people from "the personal" to "the political". But this begs the question—who are the people telling stories? How does the composition of the participants at an event expand or limit the political vision that is possible from feminist consciousness raising? At a prior hackathon the authors organized in 2014—an event attended by a majority of white people—the designs created at the event centered the experiences of white, professional breast-feeding parents. In this section we assert that intentionally structuring equity with consideration of intersectional identities is a way to surface difference and build a broader and more inclusive conception of "the political" in feminist consciousness raising.

In [54], we described how we intentionally structured race and socioeconomic equity into the event in a number of ways. Starting a year before the event, a member of our leadership team led us in equity and race identity work. Separately, the white members of the team participated in regular sessions with a trained facilitator (also white) to navigate our own white identity, privilege, and bias. So while reflexivity has received criticism such as being an act of navel-gazing [63], the reflexivity of the white members of the team was directly effective in making adjustments for more equitable project outcomes. This work made course correction easier when our advisory board or community innovation teams would surface difficult race-based feedback for us—for example, that a flyer we designed was not inclusive of communities of color, or that the way the project director had answered an email had the impact of asserting her expertise over that of an advisor of color. This preparatory and process-based work on equity also translated to the event, where we set intentional metrics around race, class and gender identity for attendees and we initiated the design portion of the hackathon with a workshop about equity. All that said, the institution where we held the event is a white-dominated space ("lily-white" in the words of Audrey) and the organizing team was majority white.

From our analysis, we see the effects of this design choice in how participants repeatedly described encountering and learning from the gender, race and ability experiences of other participants. Sometimes those differed from their own and participants described how their own privilege of their position was revealed to them, either because of race and class (Krissy) or geography (Audrey), or ability (Tatiana). And at other times participants described how they realized that patterns of oppression worked similarly across groups (Malia reflecting on the similar challenges that Native and Black communities face).

Intentionally structuring equity at a hackathon, then, may be one way to realize Bardzell's Feminist HCI quality of "pluralism" [17], which values many and multiple voices in any knowledge-making process, and centers voices marginalized by structural forces of oppression. Yet this would seem to contradict Irani's influential work on hackathon outcomes on participants [56, 57]. She has described how hackathons work to limit difference based on class, race and gender (in direct opposition to valuing pluralism) and produce a certain kind of citizen—the entrepreneurial citizen—who is biased towards action and looks to technological solutions to social problems. This may be one of the key differences between what we might characterize as mainstream hackathons and feminist hackathons—the former works to limit group-based differences so as to generate technical products quickly and the other seeks to intentionally surface and navigate differences so as to build a broad

political vision more slowly. This also builds on some of the findings from Fox et al.'s study that differentiates mainstream conceptions of "hacking" from feminist hackerspaces [43].

5.1.3 Avenues for structural literacy. While we have described the centrality of personal stories to feminist consciousness raising, there are other ways that the hackathon invited participants to make connections between their personal experiences and the structural and political roots of many breastfeeding and postpartum challenges. Building on the idea of de-centering technology at the hackathon in favor of building political consciousness, we built in a number of learning opportunities at the event for participants to become aware of structural issues, with a focus on federal paid family leave policy. For example, in parallel to the hackathon, we hosted a summit on paid family leave policy and encouraged hackathon participants to drop in. A graphic recorder created poster-based illustrations of the conversations from the policy summit and they were posted prominently in near real-time in the communal space. We also screened a film about paid family leave during the last evening of the hackathon and hosted a conversation with the director.

We connect these choices to the Feminist HCI quality of "advocacy"—the idea that feminist design begins from unequal conditions of power and privilege and should strive to bring about political emancipation [17]. Bardzell articulates that a fundamental tension of designing for advocacy is the question "Whose political vision is centered?" Rather than centering the vision of the designer, or, in our case, the organizers of the hackathon, we chose to create opportunities at our event where participants would build their structural literacy. That they did this is reflected in our findings in which participants articulated how the event helped them make the connection between poor breast pumps and paid leave policy. This is consistent with one of the central goals of feminist consciousness raising: to build individuals' awareness of how structural forces of oppression operate as well as to build coalitions towards structural solutions.

5.2 When to design for feminist consciousness raising

In this study, we found that one of the main outcomes of the hackathon we organized for participants is that it fostered feminist consciousness raising. This opens the following questions: When should researchers and designers strive to design for feminist consciousness raising? Which topic areas are appropriate for feminist consciousness raising?

As described in the Related Work section, there are many topics related to women's and LGBTQ+ people's bodies and health which are stigmatized due to structural oppression. Because of this stigma, people who experience challenges in birth, miscarriage, gender-based violence, gender transition and more, often face these experiences without support. There are often multiple structural forces that work to reproduce stigma and silence —not only sexism, but also racism, classism, ableism, heterosexism, and so on. Thus, we see possibilities for using feminist consciousness raising specifically for 1) researchers working on topics that are stigmatized, 2) domains that relate to embodied experiences and 3) working with people that are minoritized.

That said, we would encourage any researchers designing for feminist consciousness raising to fully ground their work in Feminist HCI's commitments to "agency, fulfillment, identity and the self, equity, empowerment, diversity, and social justice" [17] as well as to the use of reflexive, participatory design methods. Feminist consciousness raising places a high value on sharing personal stories that arise from experiences of oppression. However, there is potential for those stories to be insensitively extracted as research data, used callously for advocacy, and in ways that cause severe emotional discomfort to survivors or listeners [84].

Because of these potential harms, and also because the power differentials between researchers and minoritized groups are always present [33], we advocate for researchers to undertake extensive reflexivity and identity work as a way of "walking the talk" of their Feminist HCI commitments.

Reflexivity, a long standing feminist method, is "the ability to reflect on and take responsibility for one's own position within the multiple, intersecting dimensions of the matrix of domination." [35]. For this reason, we included ourselves as interview subjects in this paper as a method for understanding how we ourselves were transformed—our consciousness was raised—in the process of organizing this hackathon. Other strategies for reflexivity include Dimond et al's work [37], in which researchers detailed their positions within a social justice organization, the perspectives they brought to the table, as well as intersectional perspectives that were not accounted for by their group. Avle and Lindtner's work [12] prompted designers in Ghana and China to reflect on the values embedded in their designs as a way of demonstrating how Western design from the Global North often replicates exclusionary cultural norms. Another example of reflexivity in action is the alt.CHI paper published by 18 co-authors which comprises a set of personal stories about authors' identities and how they have influenced their career trajectory in HCI [71]. Schlesinger et al [82] advocate for more disclosure on the part of researchers, in the research paper itself, about their identities.

5.3 Open question: trauma-informed hackathons?

As our findings show, centering personal stories that come from lived experiences of from gender- and race-based oppression is likely to surface intense emotions that several participants self-described as "trauma". During the hackathon, our organizing team was not entirely prepared for how intense the stories shared would be, nor for the intense emotional reactions from listeners. One participant told us how, after hearing five women tell their stories on stage, she had to rush to the bathroom and sob, where she ended up meeting many other people there who had felt the same intense emotions. Ultimately, they cried and laughed together.

Feminist theorist Sara Ahmed characterizes this as creating a *deposit system* for stories of sexism, "When there is a place to go with these experiences—and feminism is about giving women places to go—the accounts tend to come out: a 'drip, drip' that becomes a flood. It is like a tap has been loosened, allowing what has been held back to flow." [5] Once the personal stories and experiences start flowing at a hackathon, it can be hard to stop the flow. And yet, as organizers, we felt ill-equipped to deal with the intensely personal and collective emotional impacts of the stories that were flowing, as well as to ensure the overall well-being of participants. Sharing trauma can be cathartic for some but it can also be intensely triggering for survivors. For this reason, we raise the question here for future research: what would a trauma-informed approach to feminist hackathons and other innovation events and design workshops look like?

Calls for connecting HCI research with a trauma-informed approach to structural oppression are not new [22, 55, 84]. And contributions to a workshop on Motherhood & HCI have outlined the emotional and mental health challenges that new mothers face [15]. Yet we still see much space for development of Feminist HCI approaches with connections to trauma literature [90]. Sterling [84] points out that this is particularly important so that researchers and event organizers are not needlessly denying survivor agency or re-traumatizing survivors (which she points out as a pitfall of "designing with"), but are channeling and processing experiences towards healing and empowerment. Navigating trauma and intense emotions is consistent with feminist consciousness raising, which was always regarded to be not only a political practice but also a healing practice —a way of processing individual pain, recognizing it as a structural pattern and channeling it towards collective transformation. As Whitney, the organizer of jam sessions that respond to the African-American maternal health crisis, says to participants at her events, "...we need you all to drive the solution and not just experience the pain."

6 CONCLUSION

We have described the results of a qualitative study that set out to analyze the impact of participating in a hackathon about breastfeeding and postpartum health, for the individual participants. We wanted to understand why participants came to the event, how participating in the event changed their understanding of postpartum health (if at all) and what other impacts and relationships developed for them as a result of the event. We find that the hackathon functioned as a space for feminist consciousness raising—a place to share personal stories with emotional intensity, to build awareness of how individual experiences derive from patterns of structural oppression, and to build self-efficacy and work towards collective action. "The personal is political", as the feminist slogan goes.

Drawing from literature on hackathons and feminist HCI, we assert that hackathons and innovation events can benefit from explicitly designing for feminist consciousness raising. Feminist consciousness-raising centers personal experience and emotion, helps individuals recognize oppression as a collective problem, and builds solidarity to work toward collective action. While our findings about feminist consciousness raising happened post-hoc, after the event itself, we reflected on three design elements to consider in order to foster feminist consciousness raising: 1) Sharing and valuing personal stories 2) Intentionally structuring equity and 3) Avenues for structural literacy. We believe that fostering feminist consciousness raising may be especially fruitful for researchers and designers working in women's and LGBTQ+ people's well-being who want to build community power to combat stigma, foster a collective political vision, and build solidarity across intersectional lines of experience. Finally, because our event surfaced intense emotions that participants self-described as "trauma", the paper ends on a future research question around what principles may guide the creation of trauma-informed hackathons and innovation events.

7 ACKNOWLEDGEMENTS

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