Designing for Peer-Led Critical Pedagogies in Computer-Mediated Support Groups for Home Care Workers

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ABSTRACT

Home care workers (HCWs) deliver essential health services within patients' homes and are an important part of the US healthcare system. Yet, they are a marginalized workforce, whose physical isolation and lack of access to support structures make them vulnerable to exploitation. Computer-mediated support programs may help bridge this gap and, through critical and liberatory pedagogies, foster material social change. However, such pedagogies typically assume the involvement of a professional facilitator when, in practice, support programs are often led by peers with little to no facilitation training. Based on a three-month study with HCWs, this paper explores how peers can perform critical and liberatory facilitation practice in an online support program. We illustrate the challenges peers faced learning this practice and performing this role in an online environment. Our findings can improve the design of computer-mediated support programs and how to prepare peer leadership, particularly for addressing the needs of marginalized populations.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in collaborative and social computing**; Social networking sites; **Computer supported cooperative work**; *Social engineering (social sciences)*; • **Social and professional topics** → *User characteristics.*

CHI '23, April 23–28, 2023, Hamburg, Germany

ACM ISBN 978-1-4503-9421-5/23/04…$15.00
https://doi.org/10.1145/3544548.3580881

ACM Reference Format:
Anthony Poon, Lourdes Guerrero, Julia Loughman, Matthew Luebke, Ann Lee, Madeline Sterling, and Nicola Dell. 2023. Designing for Peer-Led Critical Pedagogies in Computer-Mediated Support Groups for Home Care Workers. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23), April 23–28, 2023, Hamburg, Germany.* ACM, New York, NY, USA, 18 pages. https://doi.org/10.1145/3544548.3580881

1 INTRODUCTION

Home Care Workers (HCWs) are increasingly relied upon to provide essential healthcare services to patients in their own homes [52, 117]. They help patients manage chronic conditions, such as heart failure and diabetes [108], recover from strokes and other acute health events [62], provide instrumental living assistance for the elderly [31, 52], and more. However, in the United States, they are also a marginalized workforce composed mostly of immigrants, ethnic minorities, and older women [11, 17] with few opportunities for career advancement [35, 75]. This marginality is exacerbated by their physical isolation, since HCWs spend most of their time in patients' homes, with limited opportunity to interact with coworkers or supervisors. This leads to HCWs feeling isolated and poorly supported, particularly when they face interpersonal challenges and exploitation of their labor [36, 110].

Computer-mediated peer support programs provide an opportunity to address the isolation of HCWs and similarly distributed workforces by making use of online spaces to connect HCWs to their peers. These programs have a long history in therapeutic [64, 106], medical [84], and professional contexts [27, 61]. Peer support programs enable members of a group with shared characteristics to support each others' informational, emotional, or material needs. In online contexts, these programs might take place on social networking groups [102], internet message boards [120, 122], or exist synchronously through video conferencing and phone calls.

Peer support programs can also be especially relevant for marginalized populations. Several traditions of critical pedagogies, such as Freirian pedagogy [38, 81, 113], liberation psychology [15, 65, 72], indigenous healing [66, 66], and other transformative approaches to education and therapy, have attempted to use small group formats to address issues of power and identity to enable positive social change towards fair and sustainable social relations. The goals of these critical pedagogies mirror the needs of HCWs, who hope to transform the perceived role and identity of their profession and be recognized for their expertise and contributions to patient health [85].

In HCI, a core and frequent interest of researchers working with social justice computing is to understand how technology might be designed to enable positive social transformation. Often, the focus is on the experience of the end user, but pedagogy plays a central role in determining this experience. In support groups, pedagogy is not a static statement of policy or goals, but is enacted through the actions of facilitators, whose job is to encourage engagement and interaction between participants towards realizing those goals. Facilitators heavily influence the success of support groups [28], and many critical traditions place central importance on their role in fostering understanding and transformative action [38]. Thus, technology design for computer-mediated support groups should also focus on the preparation of facilitators, their actions in the peer support program, and how facilitators interact with the affordances of the program's sociotechnical environment.

In this paper, we examine how peers might perform the role of facilitator in a critical and liberatory practice. While many of these pedagogical traditions emphasize the importance of facilitation through the involvement of a well-trained professional educator or therapist[1], in fact, many support programs rely on facilitation from peers or volunteers with minimal or no training [100, 116]. In computer-mediated contexts, many support programs lack explicit facilitation entirely and instead rely on other techniques such as moderation [42] or reputation tracking [29]. Thus, there exist many opportunities to design technologies to enhance the effectiveness of facilitators in online support groups [50]. To do this, we explored some of the challenges that *peer-facilitators* faced both preparing for and enacting their role in a computer-mediated space, and we reflect on how the design of the sociotechnical environment could be changed to support this peer-led practice.

We performed this study in the context of an online support group program for HCWs in New York City. We reviewed literature on multiple critical and liberatory traditions to design a pedagogy for the support program that focused on several common aspects of facilitation practice. In particular, we emphasized the use of non-directive and eliciting techniques to empower participants to question, understand, and change their social context and role rather than directing them to particular, paternalistic outcomes. We designed and ran a three-day training course for six HCWs that we recruited to be peer-facilitators. We then observed these facilitators as they delivered a multimodal, computer-mediated peer support program with 42 participants in New York City. The program contained eight weeks of support group meetings delivered via video conferencing and an optional social networking group that facilitators moderated. Overall, the program lasted about three months, from the training of the peer-facilitators to the end of active moderation of the social networking group. At the end of the program, we interviewed our peer-facilitators about their experiences, the challenges they faced, and suggestions for improvements.

Our findings illustrate unique challenges at the confluence of peer leadership and critical pedagogies. Unlike professional facilitators, our peer-facilitators needed to learn to balance their dual positionality as both facilitator and peer. While, similar to past work, our facilitators' status as peers enabled them to provide unique benefits in the form of first-hand experience [82, 96, 99] and empathetic and relevant perspective [34], material support from their personal networks as HCWs, and genuine empathy with participant experiences, this status also made it difficult for them to act as neutral, non-directive facilitators and drew them into conflicts between participants. We discuss how this dual-positionality tension provides lessons for researchers aiming to engage in the politics of peer-led socially transformative work.

Our findings also show how critical and liberatory facilitation practices often clashed with HCWs' expectations of traditional instruction, a pedagogy that HCWs were more comfortable with due to existing familiarity with professional training. The demands of a non-directive approach required peer-facilitators to learn new practices to engage participants and handle conflict as they adapted to their role. Facilitators were also hampered by the technical environment which made it difficult to coordinate and smoothly operate the support program. In particular, the computer-mediated nature of the program produced new labor and challenges for facilitators, which highlights opportunities for design to better support the tasks of computer-mediated group facilitation. We discuss how the design of the peer-facilitator training and the sociotechnical environment of the support groups could be improved to enhance the effectiveness of peer-led programs.

Prior work has described how peer-led and computer-mediated support programs provide the opportunity to connect marginalized workers such as HCWs to obtain informational and emotional support and develop social and network capital [46, 83, 97]. We aim to extend this research by leveraging critical and liberatory pedagogies to additionally enable HCWs to build a shared understanding and awareness of common political interests and create transformative action towards a community-developed vision of positive social change. In this paper, we work towards these goals by exploring the following research questions:

- Can peers perform the role of critical pedagogists in a computer-mediated support program for HCWs?
- What challenges do HCWs face in the dual role of peer-facilitator and how does this affect their ability to effectively deliver a support program based in critical pedagogy?
- How do the experiences of our peer-facilitators reveal implications for how to design both training and computer-mediated collaborative technologies to support a peer-led pursuit of equitable and transformative outcomes for HCWs and marginalized workers in other contexts?

[1]Liberation therapy scholarship focuses on the role of the professional therapist [103], liberation theology on the appropriate role of the organized church and clergy [65], and Paulo Freire's own writings grappled with understanding the role of professional educators in creating social transformation through educational programs that built critical consciousness, or *conscientization* [38].

2 ONLINE PEER SUPPORT PROGRAMS AND CRITICAL FACILITATION

Researchers in HCI and related fields have done significant work on online peer support programs. These programs may make use of a variety of computer-mediated technologies to enable remote informational and emotional support in peer groups that are geographically distributed. These range from programs using synchronous phone calls or video conferencing [7, 90], semi-synchronous mediums, such as WhatsApp and other mobile instant messaging apps [56], asynchronous social platforms, such as private groups in Facebook [67] or online discussion boards [45], and even heavily asynchronous methods, such as sharing audio recordings of supportive messages, advice, and stories, to create lasting artifacts of peer support [9]. The computer-mediated nature of these programs can confer unique advantages through improved matching of participants based on their needs [77, 120] and greater accessibility [77], particularly for populations who do not attend more traditional in-person support programs [124].

In health care contexts, this research has focused on a few different key populations, such as patients and caregivers. For patients, some examples include online forums to enable cancer patients to engage in mutual support [120, 122] or allow mothers to get information relevant to the different stages of pregnancy [45]. Researchers have observed that online health communities play crucial roles in helping patients, particularly those new to a health condition, gain access to peers that can help them address their changing needs, exchange and locate sources of support, and translate between the canonical knowledge provided by doctors and their embodied experiences [40]. The first-hand experiences of peers may facilitate care-seeking behaviors [30], improve the self-efficacy of members to manage their health conditions [87], and lead to better health outcomes [49, 51]. Outside of computer-mediated settings, peer-led medical or therapeutic support groups have formed around a broad variety of shared experience with a disease or condition, such as for patients with cancer or other chronic diseases [48, 106], mutual help groups for mental health and wellbeing [84], or drug use disorders [51].

HCI research on online support programs has also addressed the informational and emotional support needs of informal caregivers. These caregivers may be spouses [111], parents [3, 43], family members, friends, or any other health care provider who typically provides care in the patient's home but is not a part of the formal healthcare system and is not paid for their care work. Although informal caregivers contribute heavily to the health of their patients, they are also under significant stress and have needs related to their own wellbeing [22]. Researchers have explored how information systems can be designed to enable caregivers to receive emotional support [95], transition into the caregiving role [63], navigate complex healthcare systems [43], and coordinate information sharing between caregivers and other family members [125]. Informal caregivers build an expertise in the health of their patients [95], something also true of HCWs [85], and many peer-led support programs for formal care workers have focused on building collective expertise around a shared profession. This focus can help members of varying experience levels to leverage collective expertise [80], improve professional practices [61], and provide a space for the gathering of a larger professional community for managing knowledge and mobilizing around professional interests [54, 123].

Finally, peer status may be defined by membership in a demographic category, such as race, gender, sexuality, or religion. While not directly in health care, some research has focused on how members of marginalized groups may participate in online peer support programs, or *safe spaces* [5], to address issues that are unique or especially relevant to them [39, 64]. For example, Naseem et al.'s work created a digital safe space for low-income women in Pakistan to engage in discussion around issues of patriarchy and social taboos [73]. The computer-mediated nature of such groups, in connecting isolated minorities to each other, enables members to explore their identity in ways that would not be possible in the context of a dominant cultural group [64, 94] and create a sense of belonging and community [24, 91]. Such groups may also serve as a basis for advocacy around shared needs [3]. Beyond computer-mediated settings, a large body of research describes how support groups can leverage critical, liberatory, and decolonial pedagogies to focus on creating transformative social praxis and activism [24, 58], as discussed further in Section 2.1.

2.1 Approaches and Concepts for Critical and Liberatory Facilitation Practice

In addition to the informational and emotional benefits of support programs, researchers in HCI and related fields have turned towards addressing issues of social justice and inequality and how the design of technology plays a role in enabling emancipatory social change [8, 32, 53]. Many of these works focused on the processes of design, such as using democratic and participatory methods [93, 119] or exploring conflict and destruction in the built environment [92]. Other work has focused on the pedagogy of interventions in which technology played a role, such as using guided text chats to encourage participants to express and discuss their problems [78] or intercultural and teamwork exercises to encourage trust building, rapport, and friendship between students from different tribes [4].

Similar principles around self-expression, democratic methods, and exploring conflict are also relevant towards designing liberatory computer-mediated support groups. How the pedagogies and sociotechnical environment of such groups are configured can help marginalized populations create a transformative praxis towards social justice outcomes [24, 58]. These outcomes are relevant to the context of our study, as past research has documented that HCWs often faced abuse in their work, felt their labor was undervalued [36, 109], and wanted a space to explore the identity, skills, and values of home care to redefine the profession as skilled, essential, and human-centric [85]. To accomplish these goals, we must strive to understand what a liberatory and transformative support group might look like.

For the purposes of this paper, we collectively refer to critical pedagogy [38], liberation psychology and theology [65, 72], indigenous healing [39, 58], and, to some extent, community and humanistic psychology [6, 47] as approaches to creating social change through the actions of educators, therapists, and facilitators. These approaches criticize prior educational and therapeutic traditions for reproducing existing structures of power and domination by treating participants as passive subjects to be taught

or cured without a critical awareness of social and historical circumstances [15, 38]. By contrast, a transformative approach should ally itself with the oppressed to develop a critical understanding of the roots of their oppression [38]. Many of these liberatory traditions have overlapping perspectives, methodologies, and goals [16, 21, 112], and are particularly influenced by the work of Paulo Freire [81, 113]. Here, we briefly review common concepts that are relevant to our support program, including non-directive support, problem-posing education, social orientation, and irreducibility of the human experience.

Non-directive support focuses on a person's right to determine their own life and therapeutic goals and comes from the tradition of person-centered therapy [59]. This conceives of the therapists' role as not to interpret or offer advice, but to provide an environment where the patient can describe and explore their own problems and reactions [103]. In group settings, a non-directive facilitator should approach the group without preconceived goals and avoid criticism or persuasion, instead encouraging participants to collectively and individually discover their problems, goals, and desires [76]. For example, Nelson et al. [74] described a non-directive program addressing intimate partner violence that encouraged attitudinal shifts through self-reflection and discussion rather than traditional persuasive strategies.

Non-directive support often goes hand-in-hand with a *problem-posing* approach to education. In problem-posing, which is central to Freire's critical pedagogy, the role of the facilitator is not to provide knowledge but to ask questions that create a reflective dialogue. Via this process, students and teachers aim to build a *critical consciousness* that can recognize the causes of a student's social oppression and enable them to engage in transformative praxis against it [38]. Freire's work has also been influential in liberation psychotherapy and theology, which aim to address the realities of social oppression for various marginalized groups [57, 69, 72]. A problem-posing approach may be particularly appropriate for minority populations who may not share the same values as the dominant social group [69].

Inherent to critical and liberatory facilitation is a *social orientation* that shifts the focus away from individual treatment towards social problems. In liberation psychology, this orientation may be historical, such as reclaiming the history and social identity of the oppressed [21]. In community psychology, this orientation is contextual and interpersonal, such as how the social context can change the role of facilitators, who must sometimes work as instigators of social change, mediators between multiple parties, or advocates [6]. In liberation theology, this orientation focuses on structural sources of oppression and how clergy should work with the oppressed to inform policy that creates "preferential options for the poor" [65].

Finally, many traditions approach therapy by assuming that the human experience is *irreducible*, that humans are complex, unique, and cannot be understood via their component parts or in isolation from social and historical contexts [47]. Therapists should thus focus on understanding a patient's environmental and social contexts, and recognize how they influence a person's understanding of events [21]. Along these lines, scholars in some traditions have advocated for narrative approaches that reflect the continuity of human experience [89]. For example, narrative psychology and indigenous healing use storytelling to address suffering, explore meaning, and re-imagine participant identities [39, 68].

In summary, critical and liberatory facilitation approaches aim to create social change by helping participants build a critical understanding of their social reality and their role and ability as social actors. Despite the thematic similarities, our goal is not to argue for the creation of a merged or new facilitation practice, and indeed many of these traditions also have substantial epistemological, methodological, and normative differences. Instead, we take inspiration from the concepts described here and apply them to the design of our support group for home care workers, the role we envisioned for peer-facilitators, and the corresponding training that we created for them to explore what is possible.

2.2 Designing and Training Towards the Role of Critical and Liberatory Peer-Facilitation

As described in Section 2.1, whether to encourage information exchange or promote social change, facilitators play an important role in enacting the pedagogy and goals of support programs. In a more practical manner, a good facilitator manages meetings and keeps groups focused to create comfortable environments that encourage participation [25]. In the traditions of critical and liberatory facilitation discussed above, the facilitator is conceptualized as a professional, such as doctors or therapists. However, many support programs have instead used peer-facilitators [100], which may be preferable and produce similar outcomes to professionally-led support groups [105].

Peers have distinct advantages and disadvantages to professional educators or therapists. While professional facilitators may have training, expertise, and symbolic legitimacy that is valuable to members of a support program, peer-facilitators are much closer to the issues and identity of the participant group [18]. Peer-facilitators may have first-hand, experiential knowledge relevant to the issues and problems members face [96, 99] or are seen as role models who can provide examples of success [30] and help illustrate what is possible for members [71]. Their experiences can make peer-facilitators more credible and increase the confidence members have in the group [82] and be able to encourage communication and information exchange [37]. The experiences shared by peer-facilitators can also provide a basis for members to interpret their own experiences and feelings [34]. However, facilitators hold a position of power in the support group that can change the nature of the relationship with participants [57], and non-directive approaches require the facilitator to adopt a neutral stance and actively refrain from projecting their values and desires onto participants [103]. These dynamics may pose interactional challenges to peer-facilitators.

Some research has focused on how to improve the effectiveness of peer-facilitators through specialized training [28]. A few studies have shown that training can improve confidence and well-being, with trained peer-facilitators experiencing fewer difficulties than untrained facilitators [127] and feeling more comfortable in their role [126]. Peer-facilitator training could also be important to ensure they understand and align with the program's goals [37]. Past examples of training efforts could be more involved, such as multi-day programs involving group discussions and role play [70, 121, 126], or less structured, with self-driven video and online resources

[126]. Despite this work, research also suggests that training of peer-facilitators is generally understudied [28, 116], with reports suggesting that most medical peer-led support programs do not train their facilitators at all [116].

Other related research has focused on training peers as educators, such as community health workers and extension instructors who are tasked with disseminating health education and teaching health practices to their communities [12, 33, 101]. Training programs for these have generally focused on improving workers' knowledge of health issues, confidence and self-efficacy, and retention [26, 55]. Although peer-instructors have been acknowledged as important in community education in low-resource settings, training resources in these contexts can be lacking, outdated, or inaccessible [12]. Training peer-instructors can also require significant time and energy [33], and so some past work has focused on leveraging technology to facilitate this training, such as using easily disseminated audio recordings of training materials [118] or tools to enable peer-instructors to find reliable supplemental information [98, 104]. Technology can also support peer-instructors as they interact with students, such as educational videos [19, 60] or persuasive scripts on a phone [88] to help extension workers.

Our paper contributes to this space by exploring a computer-mediated, peer-led, and critical and liberatory facilitation practice for home care workers. We describe the training of our peer-facilitators and their experiences in this role. We discuss how to design technologies to address the sociotechnical barriers that our facilitators faced, the training and support structures needed for a peer-led critical and liberatory facilitation, and how the dual role of peer-facilitators relates to existing approaches to facilitation for transformative social change. As HCWs are physically isolated in their work, online support programs are increasingly relevant for their support needs and the needs of similar marginalized and distributed workforces.

3 A COMPUTER-MEDIATED SUPPORT PROGRAM FOR HOME CARE WORKERS

Our study was situated with home care workers in New York City. HCWs provide essential health services in patients' own homes and are a rapidly growing segment of the healthcare workforce in the United States [10, 117]. Unlike traditional clinicians, HCWs are a distributed workforce that usually does not work alongside coworkers or supervisors. Instead, they are in close contact with patients and patients' families, making HCWs more vulnerable to interpersonal challenges and abuse in the environment of the home [36]. These circumstances result in HCWs feeling isolated and poorly supported in their job, emotionally strained, and unrecognized and unrespected for their expertise and contributions to the healthcare system [85]. Finally, HCWs in the US are often older women of ethnic minorities or immigrant status, creating intersectional layers of marginality [11, 17]. It is these issues of structural marginality, and their own expressed desire for transforming the perceived role and identity of HCWs, that motivated our focus on critical and social justice approaches.

Due to their physical isolation, computer-mediated technologies may be an appropriate way to support HCWs. Prior work has shown how online forums can improve coordination between HCWs and patients and their families [13, 23]. Computer-mediated training programs might give HCWs more specialized knowledge that enables them to better care for patients and increase their value as health care experts [114]. Finally, HCWs already use computer-mediated communication tools to maintain personal networks outside of work. Virtually-hosted support groups might enable peer support that HCWs cannot otherwise access [85], especially during the COVID-19 pandemic [110].

In 2021, we ran a pilot peer support program for HCWs in collaboration with our community partner, 1199SEIU Training and Employment Funds (TEF), a benefit fund of one of the largest healthcare worker unions in the US [1, 2]. We briefly describe the program structure here, while a more detailed discussion of its design and participants' experience is available in a separate paper [86]. The program was hosted online in weekly video conference calls via the Zoom platform and conducted in English. The program contained eight weekly sessions, each 60-75 minutes long. 42 participants were recruited and divided into five groups that met at the same time every week. Almost all participants were recruited from their prior relationship with our partner, and thus were 1199SEIU union members. Participants always attended the same time slot, which was always led by the same pair of peer-facilitators. Participants were also given access to an optional, closed Facebook Group that they could use to contact each other outside of session times, and facilitators actively posted in this group for at least eleven weeks.

In line with aspects of critical and liberatory pedagogy described in Section 2.1, time in the sessions was generally open to give participants space to go into detail about their experiences. The program utilized a set of ground rules designed to encourage mutual respect and confidentiality, described further in Appendix A. A typical session began with a quick reminder of these rules, followed by an open floor for participants to bring forward issues that were on their minds and salient to their experiences as an HCW, and ended with participants invited to summarize their thoughts on the discussion. Remaining time was spent discussing a single weekly topic. The open structure and focus on providing space for participants to share their experiences via narrative storytelling helped us respect the irreducibility of participants' experiences.

We referred to peer support needs described by HCWs in past research to design our *weekly topics* [85], such as a need to redefine the identity of HCWs as essential and skilled workers. These goals aligned with a socially and critically oriented pedagogy that recognized that home care is a highly interpersonal job, yet one performed with a strictly hierarchical context. To realize this interpersonal focus, we designed topics around specific stakeholders that HCWs might interact with in the course of their job, including patients and their families, medical professionals, agency administration, and other HCWs. For example, the following topic sentence was intended to invite stories on the politics and power dynamics experienced by HCWs in relation to traditional clinicians: *"Tell us about a time a doctor or nurse recognized your contributions to your clients' health."* A full list of topic sentences is included in Appendix B. Finally, we relied heavily on the experience of facilitators as peers themselves, particularly with their experiences with the union and as long-term members of the home care industry. This allowed them to focus on practices that encouraged activism and addressing abuses in the workplace.

4 PEER-FACILITATOR TRAINING, STUDY ORGANIZATION, AND METHODS

We now discuss the peer-facilitators, their training, and how we studied their experience in the support program. All methods were approved by our IRB and 1199SEIU TEF. All facilitators and support program participants gave informed consent on their role and participation in the study.

4.1 Peer-Facilitator Recruitment

With the help of our partner organization, we recruited six HCWs to be our peer-facilitators. The 1199SEIU TEF routinely operates instructional programs for HCWs including occupational certification programs, up-skilling, and support for continuing education. Some of these classes are led by peer-instructors, HCWs who receive specialized training to be instructors and are paid to lead in-person and online classes for other HCWs [1].

The facilitators we recruited had all completed multiple rounds of training to be peer-instructors and had experience teaching classes for the 1199SEIU TEF. We approached HCWs with experience as instructors because they possessed several skills that we hoped would transfer to our support program, including experience delivering a pedagogical intervention, engaging with students, and being comfortable speaking in front of a group. As the TEF was already in the process of moving many of their classes online via Zoom, our facilitators also had experience using the same technology tools used in the online support program and the logistics of how such a program operated.

The peer-facilitators were all women and had been HCWs for between 11 and 32 years. They had between 3 and 7 years of experience as peer-instructors, and between a high school level of education up to college graduate. All facilitators were persons of color and between the ages of 48 and 65 years. Five of the six facilitators had been involved with the union as a delegate for at least 5 years, while the sixth had no such experience. While more experienced on average than the support program participants, peer-facilitators had a similar range of gender, ethnic, and educational backgrounds. At the recommendation of our partner, facilitators were compensated $18 per hour for all facilitation-related training and activities.

4.2 Peer-Facilitator Role and Training

Ten days prior to the first support program session, we conducted a three-day training for peer-facilitators. Each day consisted of a two-hour video conferencing session. In line with prior work [126], we decided that an interactive training with live instructors using a mix of play-acting and other activities would be the most effective and helpful. We deliberately kept the sessions short and split them across three days to reduce fatigue and create opportunities to emphasize important points across multiple days. We accommodated facilitators' schedules, and all facilitators attended all three days of training.

Training was led by two researchers (first and second authors), one a professional social worker. Both the second author and sixth author contributed to the design of the training program based on their prior experience developing multiple training programs for HCWs. We also leveraged educational materials provided by the fifth author and our partner organization, 1199SEIU TEF. Overall, researchers included medical doctors, union employees, technologists, and employee and labor relations scholars who have a deep understanding of the home care space in New York City. This program was a part of a several-year partnership between 1199SEIU TEF and the principal investigators focusing on HCW upskilling and support needs.

The first training session started with introductions of both the researchers and peer-facilitators. We discussed the goals of the program: to create a space where participants could talk about emotionally challenging experiences, discuss problems they face on the job, seek support and advice, and reflect on what it means to be an HCW. We described the three main components of the support program: the support group sessions, the social networking group, and the weekly topics. We explained how participants might interact in the groups. We went over the ground rules, overall structure of a support group session, and the intended focus on sharing stories and narratives. Finally, we practiced by having facilitators play-act as participants in an example support group session.

We started the second training session with a review of the goals and components of the support program. We went into more detail about the schedule of support group sessions and when they should expect topics and surveys to be sent to participants. The majority of the time in this training was spent discussing the role of a non-directive facilitator. Inspired by shared aspects of critical and liberatory facilitation, we explained this role in terms of four principles: *listen*, *accept*, *question*, and *share*. We asked facilitators to create an environment for *listening*, where participants would feel comfortable describing their experiences, and *accept* those experiences without judgment. We brainstormed ways to show active listening, encourage participants to speak, and observe non-verbal cues that might be recognizable in a video call. The third principle was to ask follow-up *questions* that help participants better understand the experiences being shared and encourage reflection. Finally, the fourth principle was to encourage participants to *share* personal experiences and speak from experience in response to other participants instead of providing recommendations, direction, or advice. Facilitators play-acted asking different follow-up questions and handling a scenario with a simulated conflict. The remainder of the time was spent on a co-design process where potential topics were reviewed, suggested, and selected based on what peer-facilitators thought would be most relevant to the HCW experience and the goals of the program.

In the final training, we reviewed the facilitator role and the principles of non-directive support. We provided facilitators with more detail about the structure of support group sessions and play-acted important parts of the session, such as welcoming participants, providing help using Zoom, explaining the ground rules, and asking participants to give summary statements. Finally, we spent time discussing how to do facilitation actions on Zoom and Facebook. As facilitators would also be moderating the social networking group, we ensured facilitators were familiar with how Facebook Groups' features worked and how to perform moderation actions, such as deleting and approving posts.

In addition to the training sessions, we mailed peer-facilitators physical copies of scripts to use as reference during the support groups and other informational resources: a description of ground rules, the schedule and list of topics, example follow-up questions

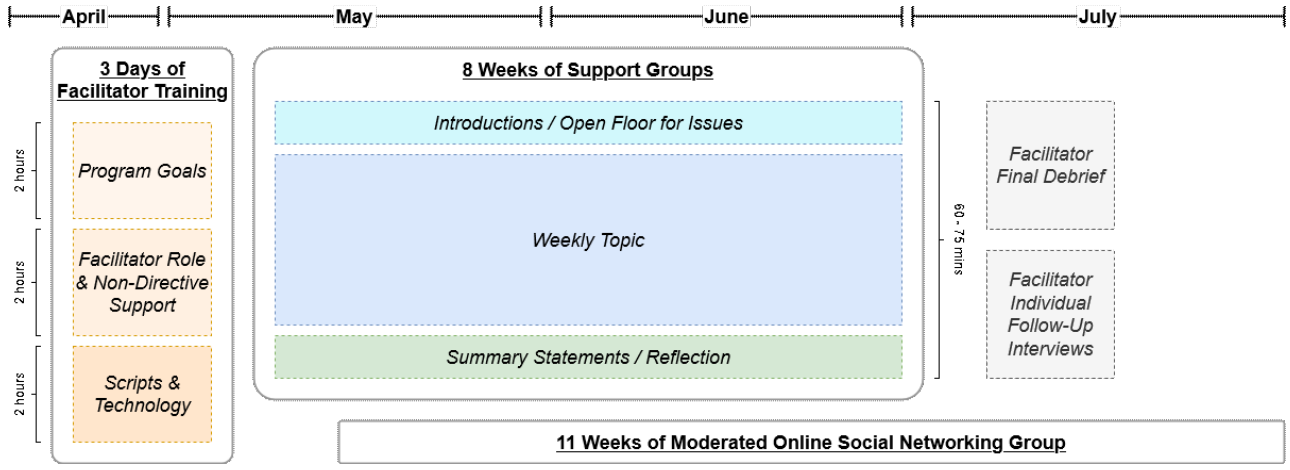

Figure 1: An overview of the support program schedule and the involvement of our peer facilitators. From the beginning of their training to the end of the program, facilitators were involved for 14 weeks.

to encourage participants to speak, and a list of contacts for various therapeutic, abuse, and labor dispute hotlines. We included copies of all the training materials and made sure both researchers were available for at least the first 3 weeks of support groups to debrief and provide feedback to facilitators. As this was the first time the facilitators were running this type of program, and to accommodate the possibility for absences, they were paired with another facilitator throughout the program so they would not be managing groups alone.

4.3 Data Collection and Analysis

All support group sessions were observed by at least one researcher. To ensure that peer-facilitators were seen as leaders of the group and to give them the maximal space to perform their role, researchers generally did not manage the groups or speak up. For example, in the first session, researchers were introduced, but only after being called on by the peer-facilitators. Overall, researchers minimized their interaction with participants unless a technical issue was occurring that facilitators could not address alone. Instead, researchers remained muted with cameras off in the video conference and observed and made field notes on the group interactions and the effect of facilitators on the session. The group was not recorded for the comfort and privacy of the participants. At the end of each session, researchers also conducted a short debrief with the facilitators, typically less than 15 minutes, and any issues discussed during this debrief were included in the notes.

At the end of the eight weeks of support groups, we held a shared final debrief that was attended by five of the six facilitators. We asked what they found challenging about the facilitation, what they learned through the course of the program, and how we could improve the facilitators' training and the support program as a whole. We also interviewed each facilitator individually to gather their reactions in private, asking them to reflect on how they might improve as facilitators, and what they think they did well. The final debrief lasted 75 minutes, and each individual interview between 30 to 45 minutes. The debrief and interviews were audio recorded and professionally transcribed.

The notes and observations taken throughout the support groups and transcriptions of the final debrief and facilitator interviews comprised the data we analyzed for our study. As we expected our peer-facilitators to have similar and consistent experiences, we used a thematic analysis [14] approach in which transcripts and notes were both read over multiple times and segments were coded[2]. We had a total of 55 low level codes, examples of which include *"challenges being non directive"* and *"facilitation rewarding"*. Codes were then grouped and re-grouped into higher level themes. During the coding and theming process, researchers had frequent discussions to ensure codes were consistent with their observations. The final themes are reported here as our findings.

5 FINDINGS ON PEER-LED CRITICAL FACILITATION IN ONLINE SETTINGS

Our findings describe how facilitators faced challenges adapting to their role and how they leveraged their experiences, resources, and identities as peers to support and engage with participants.

5.1 Peer-Facilitators Unlearned the Role of the Instructor and Union Delegate

Our peer-facilitators were all HCWs who were highly engaged with the union and had prior experience as instructors in peer training programs. On one hand, this was beneficial since facilitators already had experience speaking in front of groups and operating video conferencing tools. On the other hand, the role of facilitator is different from that of instructor or union delegate, and we saw in interviews and observations how facilitators faced challenges translating their prior experiences. To be effective in the support program, they had to unlearn aspects of being an instructor or union delegate

[2]Support program participants were similarly consented and interviewed. Participant transcripts were separately thematically analyzed, focusing on their experiences in the program. For more details, refer to the paper on participant experiences [86].

and embrace new techniques for approaching conflict, engaging participants, and managing off-topic discussion which were made harder by the virtual and computer-mediated environment of the program.

One major conceptual difference between peer support facilitation and peer-instruction in training programs is that the latter is designed to transmit canonical knowledge and has correct answers endorsed by an organization. At the end of the training programs that our facilitators taught, students would be tested on what they learned, and this could affect their certification and ability to continue working as HCWs. One facilitator pinpointed this crucial difference:

> *I feel worried [in the training program] because I have to be sure that they understand, because at the end of the session, they have to take a test. And they need to pass the test ... If they pass the test, they can keep the job.* (F3)

Thus, it was important that instructors communicated the correct information and made sure students understood and were able to retrieve this information on their own. Instructors spent significant time studying up on the textbook and memorizing exercises and answers to common questions. These high stakes focused the role of the instructor around reproducing canonical knowledge. By contrast, in the support program, the facilitator did not have a "correct" answer for participants' challenges and situations. Instead, facilitators learned to encourage peers or draw from their own experiences to provide alternative perspectives for discussion. Facilitators faced challenges adapting to this mindset and practice. One facilitator described how it took her some time to get used to this dynamic, where, contrary to her experience as an instructor, she should not focus on correcting errors or teaching participants:

> *Because I still had in my mind the dynamic that we used when we [teach] the different classes ... Until I learned that, no, ... it's not to teach anybody anything, it's just talk. Talk like you talk to your friend. You could talk and give your opinion and how it worked for you, and I probably get an idea if I have to go through the same situation ... There was nothing right, there was nothing wrong.* (F4)

Facilitators were not the only ones who had to reset their expectations. Participants were also more familiar with training programs than a support group and may have expected the discussions to end with facilitators presenting a "correct" way of approaching problems. Facilitators believed that this contributed to a fear among participants that others would judge them for having poor practices or being in bad situations. For those who spoke English as a second language, the prospect of not only describing their experiences but also needing to defend themselves in English was daunting. Facilitators had to work to overcome this fear to encourage participants to share their experiences:

> *Sometimes people want to say something, and they say, "I don't want to say nothing wrong. I don't want them to misunderstand me." Sometimes, communication, especially with accents and different things, some people don't feel comfortable speaking. But once they start going, that's it.* (F1)

Facilitators also had to learn how to handle conflict differently than as an instructor. Conflicts most often occurred when a participant made strong directive statements that could be interpreted as judgment or criticism of another's practices or experiences. An instructor might resolve these conflicts by providing an authoritative answer from a textbook. While facilitators remained in elevated positions due to their role managing the sessions, they were not expected to have authoritative, canonical knowledge. Thus, they had to learn other techniques, such as asking the group for alternative perspectives, reminding participants to respect the validity of others' experiences, or focusing on the shared experiential aspects of stories. In some sessions, facilitators asked participants to imagine themselves in each others' situations to encourage empathy. One facilitator described trying to handle conflict by re-framing a participant's statements so they would not be as prescriptive:

> *Like when it would get heated, when somebody would say something like, "I don't believe." We swayed what she's saying ... make it more what she wanted to say, but in a different, decent way than just saying it hard like how she would say, "You shouldn't do this."* (F6)

Our facilitators were also peers and often shared their own experiences in the groups. While this dual role was beneficial, as described later in Section 5.3, it also enabled facilitators to be drawn into conflicts. Strong opinions from facilitators could be misinterpreted as canonical knowledge, so facilitators had to be careful to manage their dual and shifting positionality. While the support program did enable many discussions on values and best practices, we did not want to privilege the facilitators in ways that might devalue the experiences and opinions of other participants as incorrect. For example, in one session, we observed two participants share stories of being given cases that they could not handle due to physical lifting requirements or pet allergies. Both facilitators in the session were also union delegates and encouraged participants to seek help from the union or report issues up the chain of command at their agencies. This created a potential for conflict between facilitators and participants, as the latter were focused on the experiential and emotional aspects of their narratives and how they felt agencies did not respect their boundaries, while facilitators were focused on how the actions participants should take to address their problems. As peer-facilitators still occupy a position of power within the group, it is crucial to carefully navigate these conflicts brought on by their dual positionality to avoid silencing participation.

The lack of canonical knowledge also changed facilitators' patterns of interaction with participants. In training, an instructor asks questions to students and expects an answer before moving on to the next student or question. This creates a "hub-and-spoke" form of interaction between instructor and students, and we frequently observed this practice in earlier group sessions. In one such session, the facilitator went down the participant list, asked each one to share a story, received a brief answer, and then responded by summarizing their story or giving encouragement before moving to the next participant. This resulted in early sessions that were facilitator-centric, "interview-like," and resembled instruction in that it focused on getting answers rather than creating interactions between participants.

This interview-like process also meant that facilitators spoke more. Facilitators had to learn to cede speaking time to participants and use active listening to encourage participants to share details in their stories. Facilitators learned to highlight and encourage supportive interactions between participants instead of providing the support directly. In follow-up interviews, facilitators described intentionally trying to step back to avoid interrupting participants. We observed that facilitators did speak less relative to participants as the program progressed, creating more interactive sessions. One facilitator described how being in the support groups helped her work on her patience, and another discussed how the program required her to learn listening skills:

> *I think [the program] was excellent because as [peer-instructors], we do a lot of talking because we're like teachers. But as support group host or how you call us, facilitators, you do more listening. So I develop a listening skill ... because when you listen, you learn more from the home care workers. This is how we can help them by listening.* (F2)

Finally, another feature that differentiated the support program from instruction was its open structure, lack of strict adherence to a topic, and ability for participants to bring their own issues to the group for discussion. This open structure was important for providing participants with a space and opportunity to discuss issues that were most relevant to them or weighed heavily on their minds. One facilitator (F1) described this as *"freedom of speech"* that created a more authentic experience in the support groups, enabling more relevant emotional and informational support. To preserve this space for expression, it was important that facilitators learned when to allow participants to go off topic. While instructors typically stuck closely to a script with highly structured classrooms, peer-facilitators had to learn to judge when tangential conversations would lead to supportive or engaging discussions between participants and allow them to occur. Facilitators also had to learn how to broaden or shift a topic if participants could not relate to its original formulation. It was a new experience for our facilitators to balance these competing demands of maintaining the schedule of the support group session, providing all participants opportunities to speak, and allowing for longer and tangential discussions to occur rather than strictly adhere to the topic:

> *What [was] challenging was to remember that not everything had to be on topic ... Like not to stick to script. It was okay if they went the other way. They can discuss what they wanted and still be okay.* (F6)

5.2 Peer-Facilitators Served as Intermediaries to Create Informational and Network Support

Our peer-facilitators possessed significant and valuable expertise about home care as well as robust networks of contacts that they used to navigate the practice and practical aspects of their work. This allowed facilitators to serve as loci of network support for participants, and they provided access to informational and material support that participants otherwise did not have. Facilitators also used their relationship with program staff and researchers to raise participants' concerns around confidentiality. Facilitators used their own professional networks to help address participants' issues, foster relationships between members, and become conduits for resources and information that were outside of the strict scope of the support program.

For example, in one session, we observed a participant describe an issue where she slipped on the stairs as she left a patient's home, injuring herself. She could not work but was denied worker's compensation. After discussing the problem in the group, a peer-facilitator gave the participant contact information for legal aid and made herself available outside the group to help with the situation. In other sessions, participants asked facilitators to help them get in touch with the union to address various workplace issues because they did not know the right person to contact. Facilitators directed participants to their union delegate, the union hotline, and resources such as wellness programs. One facilitator described a benefit of the support program was simply to give participants access to people who could help them with their problems and questions:

> *They learned more, because they were able to ask questions that weren't getting answered by agency or the union. A lot of them didn't even know who their union representative was. We gave them the ... different programs.* (F6)

Although our facilitator training included a review of resources available to HCWs and how to recognize when to connect a participant to those resources, we did not originally intend for facilitators to play this loci role. This may have occurred because facilitators had prior experience as union delegates, and understood the delegate role to overlap with their roles in the support program. In multiple sessions, facilitators advocated for participants to seek and make use of union resources. One facilitator equated the ability provided by the support program - for participants to express their issues, promote their interests, and address them via informational and network support - to the role of the union:

> *[The support program] helped us in a way that we have a voice, because we have no voice in home care. We have no voice with the people who's ahead of us. The people who's the head of the company..., but I can say that it will help them to know that [the union, 1199SEIU,] is behind them. 1199 is a listening ear for they successes and they problems."* (F2)

Facilitators also served as intermediaries between participants and researchers, particularly to address concerns about confidentiality. Participants wanted to know who could hear what they shared in the support program. The technologies and policies that affected their confidentiality were not entirely legible to participants. For example, we chose to use Facebook Groups to implement the social networking component of our program due to its high adoption rate. Although we configured the Facebook Group to make posts only visible to members and repeatedly reassured participants, this was not legible to participants via the Facebook interface, as Group posts would show up on their general feeds and break this logical segregation. As a consequence, one facilitator described how participants were concerned that posts in the Group would be similarly visible to agency coordinators in their friend network:

> *Most people don't feel comfortable on Facebook because everybody knows your business ... And then my coordinator is on Facebook. So then I have to watch what I say, you know what I'm saying?* (F5)

Participants had similar concerns around whether the support groups would be recorded and brought these concerns to facilitators who presented them to researchers as a more approachable intermediary.

Facilitators also pointed out that the support program itself helped build participants' professional networks by fostering a sense of belonging that led to friendships. Peer-facilitators played a central role in producing these relationships as they were the most visible and present members of the group. For example, when discussing whether participants should be allowed to attend a session at a different time of the week to give them more schedule flexibility, one facilitator described the importance of balancing flexibility against ensuring that participants recognized the peers in their group and suggested a compromise of allowing participants to join only the other time slots led by the same facilitators to maintain that sense of familiarity. Facilitators regularly greeted participants in the Facebook Group and responded to posts, and one facilitator described how she occasionally checked in with participants outside of the groups to foster relationships:

> *But it's that you develop friendships from [the support program] too, home care friendship. I try to call everybody to say, "Hello, how you doing," and see how they doing.* (F1)

5.3 Peer-Facilitators Created an Empathetic and Collectively-Owned Space with Participants

Our facilitators played a crucial role in creating a comfortable space for participants to share their experiences. They did this by helping to set expectations of confidentiality and leveraging their experiences and positionality as HCWs to build rapport. Peer-facilitators used their understanding of home care to manage discussion of salient issues and empathized with participants in ways that encouraged them to speak. Because facilitators were also peers, their involvement helped create a sense of collective ownership of the program as a space where HCW experiences were legitimized.

Perhaps the most defining feature of the support program was the expectation of confidentiality. This was important because many participants were afraid that their stories, particularly bad experiences with agencies or other HCWs, could get back to their workplace. This could have negative repercussions, such as damaging working relationships or retaliation in the form of lost work or assignment to complex or challenging patient cases. Thus, confidentiality was carefully designed into the structure of the program via closed membership, ground rules, and a private Facebook Group and unrecorded Zoom calls. However, facilitators were also important in enacting and creating a confidential space. Facilitators learned to emphasize and enforce ground rules, and one facilitator described how creating confidentiality was an important part of her role:

> *You have to make sure and let them know it's confidential ... When we introducing ourselves, this is confidential. The same way you give the patient confidentiality, we're going to give the confidentiality right here as well. And you keep addressing that or even put it on the board.* (F2)

More broadly, peer-facilitators played an important role building a comfortable environment and leveraged their personal experiences and identity as HCWs to do so. For example, in cases where participants were hesitant to speak or could not relate to a weekly topic, facilitators used their own stories as HCWs to break the ice. Participants may have found it easier to relate to facilitators' experiences rather than abstract generalities provided by the topic sentence. Facilitators also modified the topics, such as narrowing it to specific instances or flipping the formulation from negative to positive (e.g., discussing good instead of bad experiences with patients' families). One facilitator described how leaning on her own experiences was especially helpful early on:

> *When we first started after week one, week two went pretty good. We had a big group. People wasn't talking. We would discuss and say what our experience was, and that opened up the book for everyone to speak.* (F1)

Facilitators' personal experiences as HCWs also allowed them to better empathize with participants and intuit what would be valuable issues and topics to expand with further discussion. For example, participants could bring their own issues to discuss related to their profession and experiences as HCWs, such as COVID-19 vaccination policies, whether HCWs were eligible for perks that companies were offering to healthcare workers, and how the new federal holiday of Juneteenth would affect their pay and benefits. Because facilitators were HCWs, they had context for these issues which helped them provide emotionally affirming support and allay participants' fears of being judged or criticized. Facilitators used their experience to ask follow-up questions, probe for details to make stories more concrete, and explore emotional reactions in order to encourage reflection. Peer-facilitators' experiences also provided intuition for what were common experiences in home care and enabled them to encourage discussion on similar stories. One facilitator described how doing this helped break the isolation of home care work and made participants feel less alone and overwhelmed by their problems:

> *We might help them to see that maybe the problem is not the real problem ... the situation is not really bad ... but your own problems make the other situation bigger than it is. [Other] people have it too.* (F3)

Creating engagement in a virtual support group was one of the more challenging aspects of the facilitator role because it could be difficult to notice who wanted to speak. For example, not all participants used video, which made it difficult to know if participants were interested in the topic and wanted to speak, or uncomfortable and wished to move on. Even when cameras were on, it was challenging for facilitators to read body language in low resolution, with only heads and shoulders visible, especially for members of the group who were not actively speaking and highlighted in the video. Some facilitators were moderating the group from the Zoom app on their phone, and the layout of the app meant that not all participants were visible on the screen at the same time, which made it even more difficult to identify low participators who would have benefited from being invited to speak.

Instead, facilitators had to learn how to recognize other cues for when a participant wanted to speak, such as unmuting or moving the camera to more directly face themselves. Facilitators also had to create workarounds for organizing the flow of conversation and expressing non-verbal support. For example, to ensure that all participants were engaged, some facilitators kept track of which participants had joined on a physical paper list. As there were usually two facilitators per session, some facilitators split up the roles, allowing one to focus on speaking with participants, while another made a note of who was waiting to speak and kept track of time. One facilitator described using Zoom's text chat to message her co-facilitator to coordinate for this purpose:

> *I always talk to [my co-facilitator] in a chat and just let her know, "Okay, time's up. Let's go." I said to her a couple of times, "Call on somebody else. Okay. Let's go." And she heard me and said, "Thank you for letting me know."* (F1)

As the facilitators were also peers, this helped build a sense of collective HCW-ownership of the support program. This enabled facilitators to relate to participant experiences, provide genuine and grounded empathy, and offer support from a place of real knowledge and understanding about home care work. As one participant described in an interview, this reduced the gap between facilitator and participant:

> *[The facilitators] was great, because they was participating too. And they were people who were like us. Not just speakers or teachers who work in the office. They were home care workers. They were sharing experience. So we feel confident about it. We feel like, "Oh, she's one of us." She was talking about the situation, the clients, what she do, what she thought. So she was like another student too.* (Participant B8, Interview)

This sense of homophily helped facilitators distinguish the support program from training and mark the space as one where participants could have as much legitimacy to speak as facilitators. This helped encourage more interactions and discussion between participants, which was important because, as one facilitator argued, while some members might enjoy simply listening to the experiences of other HCWs, they would only get the full benefit of the support program by speaking. By making participants feel comfortable to speak, facilitators created a space where participants had a voice and enabled the celebration of shared values and experiences. This was also true for the peer-facilitator experience, who described feeling camaraderie with participants and a sense of collective ownership over their community:

> *To hear the other [HCWs] went through the same experience was fulfilling. A lot of them were appreciative for what we're still able to go through and still going. They had certain minor disagreements and stuff, but it was fulfilling to hear that a lot of people are still willing to go out there and do [the work], even though we're in a pandemic.* (F6)

6 DESIGNING FOR CRITICAL AND LIBERATORY PEER-FACILITATION

We discuss how our findings are relevant to our goal of creating a peer-led, critical and liberatory facilitation practice in a computer-mediated support program.

6.1 Technology Affordances for Better Support Program Facilitation

As described in Section 3, the computer-mediated nature of our program, via video conferencing and social networking, was crucial for these workers to access support. Participants were physically distributed throughout the city and did not have a shared and safe space to meet and work with their peers. We found that several participants preferred the virtual nature of the program because meeting from their own homes made them feel more relaxed and comfortable, and it was easier to fit into their busy schedules, as described in Section 5.2 and [86]. However, as described in Section 5.3, we found that the technology involved in running a computer-mediated support program also led to different challenges and new work for facilitators and created challenges over an equivalent in-person program.

Prior research has discussed how facilitators in computer-mediated support groups must also take the time to understand technology tools and explain them to participants in a way that promotes members' comfort with and understanding of the technical environment [25], and our facilitators also faced similar issues when they fielded questions about participant confidentiality and Facebook privacy settings, as described in Section 5.2. Other researchers described how facilitators of online support groups have to create workarounds for organizing the flow of the discussion [79], and similarly, some of our peer-facilitators created their own methods to track speaking turns in the support group, as described in Section 5.3.

These technical challenges illustrate what features and affordances in computer-mediated communication tools are important for support programs and highlight opportunities for how to design these tools to enable peer-led critical pedagogies. For example, being able to pull up a list of participants and update a state marker for them, such as if they had spoken or not, would make it easier for a facilitator to keep track of a session. Though many tools such as Zoom do allow participants to react using emojis, in practice, we found that support program attendees rarely used this feature. Creating more ways to capture non-verbal cues and enabling participants to use them in a more intuitive and naturalistic way - or simply making them accessible from a basic phone call, for attendees who did not join using the app - may make it easier for facilitators to create an engaging support group experience.

Our program also paired peer-facilitators together which created its own unique challenges of co-facilitator coordination in a computer-mediated space. For example, the facilitator tasks and roles may be split, as described in Section 5.3, and could change between different weeks. In an in-person group, it is relatively easy to connect with a co-facilitator because they could meet before or after the group in the same room without additional logistical costs. While facilitators could, in theory, use the private text chat within the video conferencing tool for this purpose, this was cumbersome

and not a persistent communication channel that was available outside of the support group times. Facilitators thus had to arrange meetings themselves, which presented a barrier to co-facilitator coordination. Not all facilitator pairs exchanged contact information and coordinated outside of the sessions.

A persistent chat or other way to easily communicate to the group before or after a meeting might make it easier to coordinate between facilitators and provide persistent information to participants, even those absent. For example, one facilitator suggested that a persistent display would be helpful to remind participants who joined late of the weekly topic. As HCWs were busy and often joined the support group while commuting, working, or taking care of their own family, they could be interrupted or distracted and may further benefit from a display that tracks the context of the group's conversation. A constant reminder of the ground rules, as described by F2 in Section 5.3, may also be helpful, although accommodation would be needed for participants joining via phone. Other researchers have tried to create custom conferencing tools that encode some of these expectations around turn-taking and tone setting in the virtual environment [50].

6.2 Training for Peer-Led, Critical, and Liberatory Facilitation

Our work found that a peer-led, critical, and liberatory facilitation practice was possible and that the non-directive pedagogy and treatment of participant experiences as irreducible encouraged narratives about HCWs' experiences that were important to the feelings of support attendees had in the program, as described in Section 5.3. Additionally, peer-facilitators were very attuned to the relational aspects of home care work and created a program that was able to delve into how doctors, nurses, patients, and patients' families affected HCWs' experiences. However, our findings show that the facilitation role was also very different from what HCWs were familiar with as peer-instructors, and these differences led to challenges around comfort with non-directive approaches and addressing issues of power in the group. This required our peer-facilitators to learn new skills and adapt their mindset about their role. Although they grew more comfortable as the program progressed, we also saw opportunities to improve facilitator training.

One critical skill peer-facilitators learned throughout the program was how to engage participants by asking follow-up questions that encouraged more contextual and personal details in the narratives shared. This helped move discussion away from generalized or vague comments on appropriate values and practices to instead uncover the personal and social experiences that underlie those values and practices, allowing participants to examine them in a more critical light that led to a deeper understanding. Furthermore, as described in Section 5.1, facilitators learned to handle conflict in new ways by engaging additional voices and reminding participants not to critique the validity of others' experiences. More focus on these skills in the training could help peer-facilitators be more effective. While we provided sample follow-up questions that facilitators could use, it took time for them to internalize this practice in a way that they could find the right questions. Training sessions could further use play-acting to give facilitators practice with scenarios where they have to ask follow-up questions or handle conflicts.

As described in Section 5.1, another mismatched expectation included the openness of the support group space, which enabled participants to talk about their experiences even if they strayed from the topics. This contrasts with traditional computer-mediated training programs for HCWs which focus on developing competencies around medical treatment and remain strictly on task and topic [44, 107]. At the same time, not all tangential conversations would be helpful, and facilitators had competing demands of allowing free-flowing conversation and ensuring the sessions ended on time. While peer-facilitators could leverage their experience to make judgments about this, as described in Section 5.3, training might also help peer-facilitators distinguish between when to encourage more discussion on a tangent and when to move on. For example, our training included a unit on recognizing non-verbal communication cues, which could be useful for identifying when to encourage more conversation or pull back, but we did not explicitly tie this skill to the support program's open structure.

Finally, although our facilitator training emphasized the goals of the support program, we did not explicitly contrast the design of the program with peer-led instruction or therapy. Facilitators confused their role with their experiences as instructors and with directly providing support to participants. More effort could have been spent early on in the program, not only explaining the program's goals, but also the facilitator role and how it differed from being an instructor or union delegate.

6.3 Design Challenges around Non-Directiveness in Peer-Led Pedagogies

In this project, we attempted to engage in a design approach that recognized the politics surrounding home care work and enabled HCWs to pursue their mutual interests [32]. Similar to liberation theologists [65], we believe that technology designers should create tools with a "preferential option" towards marginalized populations. We did this primarily by adapting facilitation techniques that enabled HCWs to recognize shared interests and share resources and ideate new practices towards pursuing those interests. However, there were aspects of a critical and liberatory facilitation practice that we could not directly translate from past literature in professional-led traditions. Unlike professional therapists, our peer-facilitators could not just step back and act as non-directive "outsiders" because, as HCWs themselves, they had a personal stake and experiences with the topics being discussed. These stakes made it difficult to be non-directive when there was a disagreement between participants on what those shared interests were or the best way to pursue them, as described in Section 5.1.

As demonstrated by this conflict, for designers hoping to support and empower a marginalized population to create transformative change, the assumption of a coherent set of shared interests for that population may not be reflected in reality. There may be different conflicting interests within the community, and it is not enough to assume that a technology intervention can simply "take the side" of the community at large. Instead, designers need to create processes for handling that conflict, enabling the various interests to be explored and resolved in a democratic fashion. Traditionally, non-directive methods are one way to enable marginalized populations to come to a shared understanding of those interests [38], and

while peer-facilitators did learn techniques to handle these conflicts, we also found that this produced tension between their personal experiences and opinions as peers and their role as facilitators.

Furthermore, there are other reasons that critical pedagogical approaches could be less appropriate. For example, a purely non-directive approach may also be ethically fraught, particularly in domains such as health care where participants are not only choosing their own goals but also potentially impacting patient outcomes. Facilitators may wish to step in and prevent participants from advocating for practices that are not medically sound or might harm patients. Finally, HCWs are a diverse and intersectional population and, throughout the program, participants shared stories of experiencing discrimination and harassment. To create an ethically just and welcoming space, facilitators may need to enforce values around inclusivity and respect that preclude discriminatory positions. Finally, encouraging HCWs to refrain from directing the conversation could also reduce the unique value that peer-facilitation can bring to a program by devaluing facilitators' experiences.

Prior research has also discussed the apparent contradiction between the need for directive support within a non-directive program. Snyder noted how, among non-directive psychologists, some still used directive statements, and not all directive statements were received poorly by patients [103]. Chambers argued that Freire's own writings never advocated for the complete lack of directive methods and how non-directive does not necessarily mean "neutral" in a critical pedagogy. Since the purpose of a Freirian education is to help students imagine their own conception of utopia and equip them with the understanding and skills to achieve it, this education is inherently emancipatory and has social values. Chambers argued that non-directiveness is about avoiding manipulation, and it is important that a critical pedagogist play a role in directing students to what they should be studying and thinking critically about [20].

These authors suggest that directive support is still necessary in a critical and liberatory facilitation practice and such a practice must embody a constant balancing act that changes with different participants and audiences. In our work, we found that facilitators' dual positionality as peers had a strong effect on this balance, making them even less "neutral" than professional facilitators. This dual positionality may have made the program more challenging to facilitate, but also provided a more persuasive and engaging experience for participants. Past research comparing peer and professional educators found that peer-instructors are sometimes more trustworthy to participants because they can provide information more relevant to participants' context and needs [71, 82]. A similar effect may make directive aspects of peer-facilitation more effective than with a professional facilitator.

For example, on a controversial topic (e.g., whether or not HCWs should perform chores for their patients outside of the house), a peer-facilitator might provide a personal example but then explain that her reaction may have been influenced by the circumstances of her experience. The facilitator could then solicit counterexamples that become an invitation for dialogue and encourage participants to examine what aspects of the social and environmental context of their experiences were important to their reactions. Facilitators could encourage participants to look at these experiences critically and reflect on how those contextual factors influenced their decisions in different scenarios and how these were or were not in line with their goals as HCWs. In this way, peer-facilitators could create a facilitation practice that is simultaneously directive and non-directive, that encourages dialogue and reflection while leveraging their own experiences as peers.

Future training may equip peer-facilitators with ways to explicitly invite contradictory experiences or opinions and how to step back without diminishing their legitimacy and control of the group. This could be done by focusing on the qualitative and contextual aspects of a peer-facilitators' experience, being clear that their experiences may be limited, and inviting other participants to fill in the gaps. Having two facilitators, as we did in our program, could also be beneficial, enabling one peer-facilitator to play a more non-directive role as more of a traditional facilitator, while the second facilitator leveraged their experience as a peer to provide more directive feedback. Designing ways to more clearly indicate these roles in a computer-mediated setting could also make interactions within the support program smoother.

7 CONCLUSION AND FUTURE WORK

This research explored what it means to produce a peer-led critical and liberatory facilitation practice in computer-mediated support programs. We designed a training course for HCW peer-facilitators and observed the value and challenges of peer-leadership as they led weekly support groups via video conferencing.

Our findings highlight rich opportunities for future work. For example, our study was descriptive and lacked a control group. Future work could compare the efficacy of different facilitation models, different training programs, designs of new tools to support peer-facilitators, or the effect of computer-mediated vs. in-person facilitation. Future work could also seek to isolate potentially confounding factors, such as whether the presence of researchers observing our sessions changed their nature.

Our work was motivated and informed by common themes in critical pedagogy, liberation psychology, indigenous healing, and other emancipatory and humanistic traditions. However, there are also areas in which these traditions differ and are incompatible. For example, some scholars have written against dangerous appropriations of decolonization language by other critical discourses [115]. Different traditions may also differ in how they approach issues such as centralized facilitator roles versus decentralized groups, homogeneous communities versus direct interaction with outside parties, and other programmatic decisions. As described in Section 6.3, we also discovered ways in which the experiences and identity of peer-facilitators as peers was valuable to the support group experience but also conflicted with non-directive methods. Future work could explore how specific critical traditions might tackle these issues and influence the design of support programs as sociotechnical spaces.

Finally, we ran a single program, and our sample size was small. Our training lasted three days, and there are many opportunities to improve facilitator training, including providing more time to prepare or incorporating different training modes, such as shadowing a more experienced facilitator. More research could also validate whether peer-facilitators in other contexts have similar experiences, particularly as home care is increasingly popular in other countries, but, as healthcare systems can vary widely, HCWs

may face unique challenges in these contexts [41]. Furthermore, a liberatory and critical support program is likely valuable for several other marginalized and distributed workforces, such as community health workers, domestic laborers, day laborers, smallholder farmers, gig economy workers, and so on. Future work can build on these lessons to create effective peer-facilitation in computer-mediated spaces that enable more equitable societies.

ACKNOWLEDGMENTS

This work was funded in part by the National Science Foundation, grant #2026577, and the Robert Wood Johnson Foundation, grant #76487. We would like to thank our partners at 1199SEIU who contributed time and expertise that made this project possible. In particular, thanks goes to Frances Sadler, Faith Wiggins, our anonymous reviewers, and others who gave us valuable feedback on our work. Finally, we would like to thank our HCW facilitators who made this program possible and the HCW participants who gave their time and valuable feedback.

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A GROUND RULES

(1) Voluntary Participation
- Participation is a voluntary act of bravery.
- You don't have to talk about things.
- We encourage you to speak as openly as you feel comfortable.

(2) Mutual Respect
- All responses are valid. There are no right or wrong answers.
- Please respect others even if you don't agree with them.
- Don't attack others.

(3) Confidentiality of Clients and Other HCWs
- Anything said here is confidential.
- Don't reveal names and other identifying information about your clients.
- Protect the privacy of other members by not revealing their names and other identifying information outside of this group.

(4) Fairness in Participation

(a) Sharing Circles
- Allow each other equal opportunities to speak.
- Make sure the previous person has finished speaking.
- The facilitator may call on names or decide the speaking order if multiple people wish to speak.
- The facilitator may cut someone short if we're running low on time to allow others to speak.

(b) Social Networking Group
- Allow each other equal space to create posts about their own experiences.
- The moderators may promote someone's post to give it more attention.
- The moderators may remove spam posts.

B WEEKLY TOPICS

Week 1 – *Why did you choose to join the home care profession? What do you wish you had known when you first started?*

Week 2 – *Tell us about a time when a client made you angry or treated you unfairly. How did you handle the situation?*

Week 3 – *Tell us about a time a doctor or nurse recognized your contributions to your clients' health.*

Week 4 – *Tell us about a time you helped a coworker do a better job or encouraged them to feel more motivated.*

Week 5 – *When was the last time you had to have a long discussion with your coordinator? What was that about and how did you handle it?*

Week 6 – *What makes you happy to come to work? Tell us about a special time that you were looking forward to going to work.*

Week 7 – *Do you feel safe while working with a client or traveling to and from a client? Tell us about a time you felt you had to protect yourself.*
Week 8 – *Tell us about something that you and your client did together to have fun or pass the time. How did you come across this activity?*
Week 9 – *At your agency, what are problems that home care workers don't discuss with coordinators? How do different agencies handle these problems?*
Week 10 – *Think back to your last new client or your first client. What advice would you give to a new home care worker or substitute?*
Week 11 – *Tell us about a time when you were proud of the work you did or felt you did a good job as a home care worker.*
Week 12 – *Tell us about a time where you had a long discussion with a client's family member. How do you deal with clients' family members?*