

Para Cima y Pa' Abajo: Building Bridges Between HCI Research in Latin America and in the Global North

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ABSTRACT

The Human-computer Interaction (HCI) community has the opportunity to foster the integration of research practices across the Global South and North to begin overcoming colonial relationships. In this paper, we focus on the case of Latin America (LATAM), where initiatives to increase the representation of HCI practitioners lack a consolidated understanding of the practices they employ, the factors that influence them, and the challenges that practitioners face. To address this knowledge gap, we employ a mixed-methods approach, comprising a survey (66 respondents) and in-depth interviews (19 interviewees). Our analyses characterize a set of research perspectives on how HCI is practiced in/about LATAM; a set of driving forces and tensions with a heavy reliance on diasporic dynamics; and a set of professional demands and associated structural limitations. We also offer a roadmap towards building connections across HCI communities, in an attempt to rebuild HCI as a pluriverse.

*Both two first authors contributed equally to this research.

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CHI '23, April 23–28, 2023, Hamburg, Germany
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ACM ISBN 978-1-4503-9421-5/23/04.
<https://doi.org/10.1145/3544548.3581138>

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI)**; *HCI theory, concepts and models*;

KEYWORDS

HCI, Latin America, development, social justice

ACM Reference Format:

Pedro Reynolds-Cuéllar, Marisol Wong-Villacres, Karla Badillo-Urquiola, Mayra Donaji Barrera Machuca, Franceli L. Cibrian, Marianela Ciolfi Felice, Carolina Fuentes, Laura Sanely Gaytán-Lugo, Vivian Genaro Motti, Monica Perusquia-Hernandez, and Oscar A Lemus. 2023. Para Cima y Pa' Abajo: Building Bridges Between HCI Research in Latin America and in the Global North. 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, 19 pages. <https://doi.org/10.1145/3544548.3581138>

1 INTRODUCTION

As knowledge production in the Human-Computer Interaction (HCI) field continues to expand its borders, the field itself constantly shapes and evolves globally. A window to observe the geopolitics behind how HCI practitioners—in academia, industry, or other sectors—contribute to the field is the growing interest in knowledge representation. The focus is on promoting the scholarship of members and research areas within the community that have historically remained in the margins. Substantial support and incentives have been employed to effectively include researchers with a diversity of backgrounds and experiences into HCI. For example,

Special Interest Group (SIG) meetings have been held at CHI conferences [7, 20, 44], international summer school programs have brought researchers from different countries together [24], and scholarships have been established to support researchers in the Global South to attend major conferences [89].

One region of the Global South that has been considered in those initiatives is Latin America (LATAM)¹. Following prior work done sparsely by practitioners in LATAM, the CHI 2001 Development Consortium was held as a first step to promote HCI in the region and to help the community take shape [45]. Yet, the influential local HCI efforts in LATAM have had little to no international exposure. In particular, events in LATAM have lower citation rates than those in regions within the Global North [105]. Moreover, only between 0.5% and 1.2% of top HCI conference attendees are from LATAM [7]. This demonstrates a need for increasing the representation of research done in LATAM or by LATAM researchers in HCI to advance the field. Although we refer to LATAM as a region, this characterization is by no means a way to flatten its inherent diversity. Given the ‘overwhelming heterogeneity’ [29] of LATAM, our study focuses on analyzing examples of functioning and challenging dynamics when practicing HCI, and use them to reveal insights and to provide appropriate recommendations.

LATAM has invaluable resources regarding tacit and explicit knowledge (including a variety of rich Indigenous knowledge) [34, 54, 92, 94, 100], people, and ways of living [35, 53]. These resources involve cultural values such as solidarity, informality, commonality, environmental perspectives, and socio-political narratives around safety, fear of violence and corruption. All these aspects characterize the context where users experience the world and interact with technology. Thus, their understanding is necessary to analyze how the HCI field unfolds across the region and how to foster its integration with HCI in the Global North. Unfortunately, current initiatives are not driven by a consolidated understanding of HCI practices employed by practitioners in LATAM. Without an in-depth analysis of the challenges they face and the assets they can offer, attempts to make LATAM-originated knowledge more salient for HCI as a research field globally are hindered. Such understanding is essential to inform initiatives aimed at increasing the visibility of HCI in/about LATAM, and especially to help stakeholders overcome specific challenges when practicing HCI in their region. In this paper, we contribute to filling this gap and, as illustrated by its title², and characterize particular aspects of current HCI practice in LATAM that can enhance its interaction with practices in the Global North. To that end, we address three research questions:

- (1) *How is HCI practiced in LATAM?*
- (2) *What factors influence HCI practices in LATAM?*
- (3) *What challenges do HCI practitioners encounter in this context?*

¹LATAM is a term used to describe territories within North, Central, and South America and the Caribbean where countries share a history of Iberian colonialism, and where Spanish and Portuguese are the dominant languages. Following [37], in this paper we consider LATAM to include 34 countries including Mexico, Haiti, and Puerto Rico. In 2021, the population of the region was around 656 million people, living in an area of approximately 19,197,000 km² [101].

²“Para Cima y Pa’ Abajo” is a colloquial expression widely used in LATAM –here deliberately written half in Portuguese and half in Spanish– that means “from bottom to top and from top to bottom”. We playfully use this *double entendre* to refer to the geographical locations of the Global North and South as top and bottom.

With these questions in mind, we surveyed 66 international HCI practitioners and conducted follow-up semi-structured interviews with 19 of them to understand their perspectives. The two main contributions of this paper are: (1) a first attempt to characterize HCI practices in and about the LATAM context through three overarching themes: HCI practices in and about LATAM; driving forces and tensions within HCI in and about LATAM; and demands of being an HCI practitioner; and (2) a research roadmap for building connections among different HCI communities as a potential way towards rebuilding HCI as a pluriverse [35]. Within this context, we interpret the pluriverse as the possibility of heterogeneous, opposing or partially contrasted experiences within the HCI field to learn from each other without the need to claim validity over one another [105]. In this paper, we begin to take steps in that direction. We encourage HCI practitioners in other parts of the Global South to use this research as a foundation for studying their own contexts and promoting initiatives that will build bridges between our different communities.

To follow, we contextualize our study and frame our contributions by synthesizing work previously conducted within under-represented HCI contexts as well as initiatives aimed at fostering the HCI community in LATAM. Then we explain the design of our study and present our mixed-methods analysis, followed by our main findings. We close by discussing the implications of our findings for the HCI field, their limitations, and potential steps forward.

2 TERMINOLOGY AND POSITIONALITY

In this paper, we use constructs to define the inclusion criteria for the population and contexts we study. However, these terms can be abstract. Next, we explain and detail why and how we are using them in this work, and what our positionality is in relation to Global HCI.

2.1 Latin America

The French coined this pan-ethnic term three centuries after the invention of the term America to distinguish Anglo-American regions (e.g., United States and Canada) from Iberian ones [69, 73]. This includes territories within North, Central, and South America and the Caribbean (e.g., Mexico, Cuba, Puerto Rico, Venezuela, Argentina) where countries share a history of Iberian colonialism, and where Spanish and Portuguese are the dominant languages [69]. Although clear-cut specifications of the countries the category covers often change, for this paper we include 34 countries [1].

As a category, the term is often critiqued for its attempt to define populations and regions that are too diverse to be discussed as one, often failing to reflect the identities of those it attempts to describe [49, 65]. Countries in Latin America have radically different geographies, demographics, and ethnic compositions (e.g., the Dominican Republic is an island with 95% Afro-descendant citizens, Ecuador is located in a mountain region with mostly citizens from Amerindian descent, and Argentina is larger than Western Europe with over 50% of non-Spanish European-descent citizens). They also have different socio-economic, political, and institutional contexts as well as international policies and relations [65].

Despite the critiques of the term being overly broad, artificial, and arbitrary, following Moya [73], we chose to use it to describe the main regional context of our study due to its rich possibilities for enabling a historical and socially-relevant analysis of the populations it describes. Specifically, the common Iberian colonial history that the category represents, clearly sets the region apart from other regions in the world. Iberian colonialism left a unique impact across the entire region including a high degree of linguistic unity, racialization, and exclusion practices leading to high levels of social inequality, a unified legal culture shaping all relations, religious beliefs and institutions, and cultural values and practices palpable in just about every aspect of social life (e.g., food, urban spaces, music, literature) [69, 73]. Such commonalities allow for a deep exploration of the challenges that the region, as a whole, poses for HCI as a field, as well as its opportunities and strengths, without losing sight of the differences among countries and experiences.

2.2 Global South/North

Drawing from Talpade Mohanty [71], we use the terms Global North and Global South to “distinguish between affluent, privileged nations and communities and economically and politically marginalized nations and communities.” We recognize, however, that global binaries used to emphasize contrast (e.g., first versus third world, developed versus developing, and Western versus non-Western), entail “a litany of problems” [49]. They homogenize the significant internal divisions and hierarchies within the geopolitical areas of the world they contrast. As a resource for contrast analysis, they also overemphasize differences, thereby obscuring similarities. In the specific case of the North/South binary, it does not always align with the geographical location of the nations and communities it describes (e.g., while Mexico is in North America, it is often described as part of the Global South [16, 88]).

While the use of binaries can seem hard to justify, it is also hard to deny that “the entangled histories of modernity, colonialism, and capitalism” do create two different epistemic and racial/ethnic worlds [49]. As such, as a designation that seeks to emphasize the haves versus the have-nots, the North/South binary does have “a certain political value” [71]. In this paper we, thus, choose to follow a “strategic essentialism” as proposed by Gayatri Spivak; we use the binary in spite of its reductionist problems so as to highlight the experiences of the group on the disenfranchised side of the binary, even though at the same time, we are trying to dismantle the binary itself [25].

2.3 HCI practitioners

Our goal of understanding how HCI as a discipline is being constructed and developed in Latin America broadened the inclusion criteria in complex manners. First, given our goal to understand how HCI as a discipline is being constructed and developed in Latin America, we could not center our work on researchers only. Second, considering how “HCI is now effectively a boundless domain” [12], we could not limit our exploration only to participants who officially self-identify as member of the HCI community. Third, given the complexity of defining what Latin America is and exploring the many factors that shape HCI in this region, we also could not limit our examination to those engaging with HCI in Latin America; it

was key for us to also include the Latin America diaspora as well as those with no Latin American ethnic background that work within Latin American contexts as these groups can inform and learn from the practice of HCI in the region.

To grapple with the comprehensive nature of the population we study, we build on the work of Kumar and Dell [57] and propose the term HCI practitioner to refer to the participants of this study. We use the term to describe academics and professionals who are from Latin America or work in/for Latin America and engage in the following types of practice: (1) user experience and/or design within the industry or as consultants [41]; (2) HCI research or research at the intersection of technology and society, including CSCW research [80, 99] and; (3) “technology in the context of global development” across different scenarios including government, non-profit, or citizen-driven organizations [57].

2.4 Positionality

As authors speaking to a global HCI audience, we acknowledge our connections to Latin America as fundamental to our research and practice. Our author list includes researchers from a variety of socio-economic and cultural backgrounds from Ecuador, Chile, Argentina, Ecuador, Mexico, Brazil, Guatemala, Cuba, and Colombia. Some of us studied in Latin America and stayed. Others studied in Latin America, left and returned. Others left and are still far from home, or have found home somewhere else. Regardless of these differences, all of us are committed to the places we are from and to Latin America as a collective idea. Several of the authors actively work and/or have research connections in Latin American countries while actively working to advance an inclusive HCI community in the region. We detail each of our backgrounds in the appendix section.

3 BACKGROUND AND RELATED WORK

This section presents the challenges that underrepresented communities face when conducting HCI research, and the efforts dedicated to make it more plural.

3.1 Global HCI Community

Thanks to the relative ubiquity of technology and spread access to mobile computing and the web, HCI has evolved to include a diverse global community of researchers representing various cultures and epistemological backgrounds [27, 48, 50, 83]. However, the HCI community remains divided between *the mainstream*, deeply rooted in western epistemologies, often considering research done in the Global North as the norm, and *the exception*, which includes users, researchers, and HCI practitioners in other geographies (e.g., Latin America, Africa, South-East Asia) [21, 22, 50, 58, 62, 93, 103]. As a field of knowledge and practice, mainstream HCI is indeed “dominated by political and post-colonial discourses that pervade local Indigenous and global knowledge networks shaping what is considered useful and relevant research and practice” [76]. This mainstream-exception division comes from the apparent universal qualities of computing technologies spread across highly unequal regions that struggled to secure technological resources, playing catch-up with developmental models [2, 68]. The resulting

domination-subordination dynamics it created are still present today.

An example of how this takes place are the limited opportunities HCI practitioners across the world have for engaging in mutual learning with those doing similar or related HCI work, but located at a geographical and/or epistemological distance [3, 59, 103]. This division affects researchers outside the norm who seek to position themselves within HCI, as they often have to engage in highly taxing emotional labor to be considered valid contributors to the community, (e.g., to continually out, define, and defend themselves and their work to the mainstream HCI [64]). Despite their efforts, these researchers' citation numbers and participation as reviewers and leaders in HCI events remain low [56, 95]. As a result, HCI continues to face limitations to produce knowledge that speaks to global audiences. Recognizing themselves at the margins, non-mainstream researchers have conducted studies highlighting how HCI is practiced in their regions and the reasons behind the global versus local division [2, 11, 47, 79, 103]. The African HCI community foregrounds how Indigenous and situated perspectives can enrich computing technologies' design practice [2, 103], emphasizing designers as "part and parcel of the collective" rather than detached, "critically distant" individuals [103]. Academics from the Arab World identify that a critical particularity of the HCI practice in the Arab context is the role that religion, cultural norms, and collectivist values have in how users appropriate and adopt new technologies [4, 5]. To that end, these scholars argue for designers to reflect more deeply on the cultural considerations needed for recruiting women as users/research participants [5]. Researchers in LATAM argue that HCI practice in the region can offer important lessons on cultural differences analysis and designing "against the system" [48].

This line of region-specific research has also singled out a number of relevant aspects that can explain the divide keeping the different local shades of HCI as "the other" [2]. A common problem across regions is the way HCI education takes place in local academic programs; HCI faces issues to be a well-established field of study in African, Latin American, and Arab World universities [2, 4, 47]. Possible reasons are a rigid division between engineering and humanities education, which can drive engineering students, and faculty in general, away from appreciating HCI classes as relevant [4]. In LATAM and the Arab World, there is also a lack of educational resources emphasizing local languages and cultural contexts [48, 67]. The lack of trained HCI workers is an obstacle for the industry and public sector to consider and adopt HCI practices, which in turn deters the field from further regional growth [67]. Another struggle that researchers from Asia, the Arab World, and Latin America have repetitively reported is the limited financial and institutional support they have to produce research and later share it in global venues [4, 43, 48, 86, 86]. The use of English as a *de facto* language for publication and collaboration [43, 48, 79, 86], time zone differences, lack of observation of local religious dates and customs [43], and local universities' publication policies [4, 79, 86], are also limiting factors prevalent across regions. Intra-regional research collaborations, which could help researchers navigate some of these barriers, also tend to be low across Asia and Latin America due to geographical dispersion and university rigid structures [48, 74].

As a response to these issues, both local communities and global organizations have taken action to promote more intra-regional collaborations by creating local forums (e.g., CHI-SA [2]), collaboration networks (e.g., HCICollab and LAIHC [66]), local conferences (e.g. AfriCHI, MexIHC, BrazilHCI, the China HCI Symposium), and local HCI chapters in more countries (e.g. SIGCHI Local Chapters). Global HCI organizations and conferences, (e.g. SIGCHI, IEEE, PDC, ICTD) have also coordinated efforts so that academics from different parts of the world can participate in global conversations [5, 47, 77, 79, 86]. In recent years, key conferences (e.g., Compass, Ubicomp, PDC, and ICTD), have explicitly sought to take place across non-mainstream HCI geographies, attempting to facilitate multilingual spaces. All of these efforts have made important progress in helping HCI to close its internal epistemological divide. However, many voices are still at the margins [22, 81]. It is, thus, critical to continue exploring the current context of the Global South from novel, rich perspectives and distilling possible pathways for the global and local to engage in mutual learning.

3.2 HCI in LATAM

The many similarities that Latin America shares with other regions across the Global South makes it an interesting case study for eliciting rich, transferable insights about mutual learning possibilities in mainstream/non-mainstream geographies. Just like with Asia and Africa, the Western gaze often reduces Latin America's extreme diversity into one enormous monolith with the same economic, cultural, social, and political characteristics [29, 103]. Technology also entered Latin America as an entity from abroad that multinational companies and public universities helped to further promote and that, nowadays, demands a development process rate often unattainable for the region [2, 29]. The Latin American HCI practice also faces challenges similar to other Southern regions, including lack of funding and language barriers [48, 66]. Struggles that are particularly prominent in the LATAM region are a lower-than-average number of international research collaborations [37] and a misalignment between HCI publication venues and local research evaluation policies [51, 61]. In seeking the internationalization of local scientific production, Latin American governments from, e.g., Mexico, Brazil, Colombia, and Ecuador assign more value to publications in journals indexed in the Web of Science and Scopus databases [6, 61, 84]. The prioritization of these indexers—where certain disciplines and languages are not well-represented—without considering publication quality, visibility in its field, and dissemination impact, negatively affects regional research [6, 84, 97]. In Mexico, researchers' economic dependency on their publication achievements worsens the problem [13]. The Argentinean model tries to rectify these issues by putting Latin American indexers (e.g., Scielo) at the same level as international ones [6, 97].

There are few studies about HCI and related fields in LATAM, and most are explorations or position papers based on personal or communities' experiences seeking to inform improvement pathways (e.g., how to create more suitable educational materials [48] and courses [72]), and strengthening local communities [31, 66]). Exceptions include Muñoz Arteaga et al.'s work, describing the process of collaboratively creating open access HCI educational materials in Spanish and Portuguese [75] and Granollers et al.'s, describing

the state of HCI educational and community-building practices by 2007 [46]. Focusing on the related field of ICTD, Stratton and Nemer found that Latin American researchers doing similar work to ICTD often use other terms to describe it (e.g., digital inclusion), and that research in the field still struggles to represent social, political, economic, and cultural diversity in the region [92]. Against this backdrop, it becomes relevant that studies on opportunities for closing the local-global gap engage in richer explorations of the region's relation with HCI.

Following the work of Winschiers-Theophilus and Bidwell [103] about HCI in Africa, in this paper, we explore how HCI practitioners coming from or working with LATAM relate to the region's existing strengths within and outside of the HCI discipline. Within the HCI discipline, one of the region's main strengths is its community-building experiences. The LATAM HCI community has 20 years conducting efforts to render visible critical contributions the region can offer to the global HCI community. Important accomplishments include a wide range of local conferences (e.g., MEXIHC, ILA, CLIHC, IHC, Jornadas Iberoamericanas de Interacción Humano-Computador), workshops and special interest groups meetings in local and global conferences [79, 87], summer schools, educational books in Spanish [9, 23], journals [22], and periodic webinars [47]. Locally, communities have also made efforts to make governments revise their publication policies so as to recognize HCI researchers' value [79]. LATAM also has an important and ever-growing body of local publications in Spanish and Portuguese related to HCI issues that, due to global publication standards, has not been widely disseminated. This body includes a history of Informatics including experiences from Chile, Brazil and Argentina [98] and Carmo et al.'s work on the participation of women in HCI within the Brazilian context [32].

Outside of the HCI scope, the history of colonization, violence, social injustice, racism, and emancipation that characterizes LATAM [33, 36, 60] has led to the creation and growth of many activist communities discussing the role of technology in society from critical perspectives. Communities such as Datalat, ILDA, Data Género, and Tierra Común discuss and propose critical/feminist analysis of the role that data and AI can have in socio-economic development. Other groups (e.g., Conectados al Sur, Potrero Digital, and Faro Digital) explore learning strategies for promoting reflective and critical uses of digital technologies in underserved or vulnerable communities. Activist groups such as Colectivo Ñuu Ayava and Kamaq Yachachiqkuna explore the role of technology in preserving Indigenous cultures and languages, and free and open source activists promote *hacktivism* towards digital resistance in the region (e.g., Huiru, Via Libre Foundation, Conocimiento Libre EC). Such a rich, dynamic context of diverse critical views, has also informed a series of local publications unpacking technology's possibilities from social sciences, decolonial, and feminist lenses, including analysis of AI challenges [55, 78], online spaces for the creation and support of feminist identities [8, 96], hacker ethics, technopolitics, and digital sovereignty [10, 91], data decolonization [82], and uses of digital media for supporting Indigenous groups in the region [38, 42, 85].

Our study sought to understand how those engaging and self-identifying with HCI and related areas of work (e.g., UX and Information Science) might be connecting with these many vibrant and

growing strengths, and how such relation shapes—or not—local HCI's vision and practice. Furthermore, the study explored how the intertwining of strengths and challenges that HCI consolidates in LATAM, can offer transferable insights to other parts of the world that seek mutual learning, gradually creating an HCI that grows in various directions.

4 SURVEY

The authors –LATAM researchers in HCI– designed a survey targeted at HCI practitioners³. The survey was pilot-tested by three researchers, whose feedback was incorporated. The survey comprised of 28 items divided in four parts. The first part included five questions related to eligibility and consent. The second had nine multiple-choice questions covering research fields and application areas, publication venues, years of experience, types of research (quantitative, qualitative, mixed, etc.), research methods, and target populations. The third part, containing six questions, was optional and open ended. It aimed at getting a deeper glimpse at respondents' experiences. These questions probed for stories about how respondents found their research field, what was their motivation, descriptions of memorable projects, surprises, struggles, and lessons learned. The final part of the survey presented eight optional demographic questions. Lastly, respondents were invited to leave their name and email if they wished to be interviewed in their preferred language (among English, Spanish, and Portuguese). The informed consent form introduced respondents to the purpose of the study and survey, the research team, the completion time (around 30 minutes), and clarified that participation was voluntary. We followed a continuous consent model, which means that participants could decide to stop at any time under no risks.

4.1 Recruitment and Data Collection

The survey, implemented in Qualtrics⁴, was distributed online in April 2021. We advertised it via relevant mailing lists (ACM Local Chapters, HCI-centered and User experienced-centred lists from LATAM countries, lists with Hispanics in the field of Computing, lists related to data science, open software, informatics, or engineering from LATAM and European universities and networks, lists with LATAM women in technology, ICTD-, ICT4D-, and HCI4D-centred lists); the authors' social media channels (Twitter, Facebook, LinkedIn profiles, and research group chats in Whatsapp and Line); Facebook groups (related to ACM SIGCHI and to HCI-centred LATAM communities); Slack workspaces (including spaces for Latin American researchers and students related to HCI or User Experience, spaces for HCI researchers who are women, spaces for feminist researchers in HCI, and spaces belonging to research labs that the authors worked at), and word of mouth. We also asked call recipients to further share it with their own networks. To reach a wide audience, both the call and the survey were available in English, Spanish, and Portuguese. We selected these languages because of the following reasons: English is the dominating language

³Although the survey's title and welcome page explicitly framed it as a research project to understand how HCI is practiced in LATAM, we welcomed contributions from practitioners that met the criteria even if they did not call their main field *HCI*, as this is not a pervasive term in LATAM. This inclusive approach is similar to [92]'s with ICTD in the region.

⁴www.qualtrics.com

in academia world-wide; Spanish and Portuguese are the dominating languages in education in LATAM; English, Spanish and Portuguese are the dominant languages in academia in LATAM [1]); and these are the three languages in which the authors feel competent conducting research.

4.2 Data Analysis

After cleaning the responses to discard invalid data, 66 valid answers remained for analysis. The survey questions were divided in demographics, methods, and goals and challenges. Demographic questions included age, gender, disabilities, preferred language, country of origin and country of residence. Methods questions refer to the methodologies that the researchers apply in their daily work. Goals and challenges describe the goals that the participants set for themselves with regards to their work in HCI, the challenges they face, and the strategies they use to overcome these. Below we detail how we addressed the questions for analysis:

- **Demographics.** Age, gender, disabilities, and preferred language were summarized directly from the question asked. The multidisciplinary nature of the HCI community and the extensive descriptions in the ACM CCS Applied Computing taxonomy⁵ were more challenging to analyze. We opted to separate responses into those who explicitly mentioned working in HCI and related areas, and those who did not mention HCI. Mentioning HCI involved a self-identification with the discipline by choosing it on a list, or declaring submission(s) to HCI-related venues. Country of origin was separated in three groups. Latin Americans working and living in Latin America (latam-in-latam); Latin Americans working and living outside of Latin America (latam-out-latam); people from other regions working in Latin America (out-latam-in-latam); and people from other regions affiliated with institutions from other regions but working with Latin Americans as target populations (out-latam-out-latam).
- **Methods.** Research methods were summarized into Qualitative, Quantitative, Mixed-methods, and others, according to the participant's response.
- **Goals and challenges.** Goals and challenges were expressed in optional open-ended questions, plus a closed question on obstacles encountered when doing research with human participants. For this analysis, only 59 responses were available, as seven participants chose not to reply.

Besides descriptive statistics, we also conducted an exploratory analysis to check if the categories of latam-in-latam and latam-out-latam were related to the challenges faced by HCI practitioners. A lightweight qualitative analysis was conducted. Four researchers became familiar with them and collected memos in a shared document, generating descriptive summaries of the dataset. They iteratively and collaboratively clustered the data into inductive codes. We used the insights to guide the design of the follow-up interviews and to report quantitative results about the survey's open questions.

⁵<https://dl.acm.org/ccs>

5 SURVEY RESULTS

Respondents' age ranged from 18 to 64 years old. Two respondents declared having a disability and one preferred not to respond. Table 1 presents demographic information of the participants and Figure 1 presents their distribution per country.

Respondents (n=66)		Groups	
Age	18-64 y.o.	Latam-in- Latam	42%
Women	50%	Latam-out-Latam	32%
Men	47%	Others	26%
Non-disclosed	3%		
Countries of Origin		Sector	
Latin American	86%	Academia	67%
Not Latin American	5%	Industry	9%
Multiple Countries	3%	Government	3%
Non-disclosed	6%	Multiple	11%
		Non-disclosed	10%
Affiliation		Language	
With institutions in Latin America	45%	English	50%
With institutions outside Latin America	35%	Spanish	29%
Multiple affiliations	6%	Portuguese	21%
Non-disclosed	14%		

Table 1: Survey results: Demographic Information

Out of the 66 respondents, 79% reported conducting HCI research. Out of these 52, 27% participants identified their research as being exclusively in HCI, and 73% reported doing HCI in addition to other disciplines. Among the 52 participants that did HCI research, 42% were from the latam-in-latam group, and all of them conduct research with LATAM populations; and 37% were from the latam-out-latam group (50% conducting research with LATAM populations). In terms of methods, 21% reported using only qualitative methods, 3% only quantitative, 30% only mixed methods, and 46% declared combined methods. The most common research methods used by HCI practitioners correspond to interviews, surveys and participatory design (Table 3). Regarding conferences, respondents submitted their work to international and regional conferences. However, as described in Table 4, practitioners outside of LATAM chose conferences such as CHI and CSCW, whereas conferences such as HCII, IHC, CLIHC and MexIHC were more relevant for practitioners conducting research in LATAM.

We identified seven challenges that the respondents faced when doing research: interpersonal (47%), resource scarcity (25%), discriminatory technology (6%), publishing fees (6%), language (7%), adaptation of methods to LATAM (30%), and the multidisciplinary context of HCI (14%). When assessing location groups (latam-in-latam and latam-out-latam) and these challenges, a series of Chi-squared tests revealed a marginal significant difference in discriminatory technology ($\chi^2(1) = 4, p = .045$); in method adaptation ($\chi^2(1) = 4.77, p = .03$); and in challenges regarding multidisciplinary ($\chi^2(1) = 5.4, p = .02$). These results suggest that, when compared to people working outside LATAM, participants who are in the region perceive technology to be more discriminatory, have more challenges adapting methods and working in a multidisciplinary environment.

6 INTERVIEWS

We designed a semi-structured interview guide to further understand how HCI is conducted in/about LATAM. The guide, written in three languages and designed to last around one hour, aimed at



Figure 1: Survey: Distribution of respondents per country of origin (n=59, excluding respondents reporting more than one country or none)

deepening our understanding around survey responses. For example, we asked participants to reflect about the memorable project that they mentioned in the survey, focusing on challenges, surprises, and strategies. We probed for matters related to international collaboration, their views on resources, infrastructure, and support, and especially on existing or potential dynamics between LATAM and mainstream HCI. Other questions ranged from how the participant identified their work within the ACM CCS Applied computing taxonomy, to the methods they use and why, to where they chose (and how they chose) to disseminate their work. Our questions also covered their personal motivations and fears or concerns when entering the field, in addition to advice they would give to beginners.

6.1 Participants

Among survey respondents, 38 volunteered for an interview, and we selected 19 of them, maximizing diversity across country of origin, gender, age, education and sector. Table 2 shows the participants' demographics and interview language. We report on age, gender, ethnicity and disability in an aggregated way to preserve participants' identities. Interviewees' age varied from 18 to 64; 11 were women, 8 were men. No interviewees declared having a disability or condition that greatly limited one or more of their life activities. Additional participants' information is provided as supplementary material for further contextualization.

Origin	From Latam (41)	Not from Latam (1)
Gender	Men (21)	Women (21)
Age	18-34 (20)	35-44 (13)
	45-54 (7)	55-64 (2)
Education	PhD (19) + PhD candidates (5) BA (7)	MSc (11) Other (5)
Sector	Academia (32) Industry (10)	Government (4)

Table 2: Interviews: Participants' demographics

6.2 Data Collection

Nine of the authors conducted each between one and three semi-structured interviews, which lasted between 60 and 80 minutes. The interviews were held over Zoom (using a secure link provided by MIT), between May and June 2021. We used HappyScribe⁶ to support transcription while pseudonymizing the data. The transcripts were reviewed by at least one other author. Each reviewer checked one to three transcripts. We kept the transcripts in the original language and avoided translating them, even during qualitative analysis, to preserve meaning and nuance. In the results section, we present quotes translated to English.

6.3 Data Analysis

To conduct a qualitative analysis of the interviews, we first discussed our experiences with different versions of thematic analysis.

⁶www.happyscribe.com, an online tool with GDPR-compliant servers.

Then, we agreed on an approach inspired by Braun and Clarke [18, 19], using researcher reflexivity as a pillar. Because of this epistemological and ontological positionality, we purposely avoid measuring inter-coder agreement –which poses the existence of a researcher ‘bias’ and tries to minimize it– as well as performing consensus coding –anchored in the belief that there is an objective way of coding, and that it is desirable. Instead, we recognize the situated nature of coding as well as its partiality and subjectivity [26]. Six researchers lead the analysis, referred to as *coders* in this section. Five are women and one is a man, all are from LATAM, and active participants in the HCI global community. Their positionality builds upon emancipatory praxis and commitments stemming from LATAM scholarship and movements [15, 28, 39]. They stand against epistemic injustice, understood as a force that denies people’s capabilities as “knowers” [30], and support crossing borders in solidarity [70] to embrace a pluralistic view of knowledge production and life in general [35]. Each coder was assigned one to six interview transcripts. Transcripts were assigned by 1) designating transcripts of interviews conducted in the coder’s mother tongue, 2) balancing the length of transcripts, and 3) assigning coders to interviews that they had conducted. This assignment leverages on familiarity with the data as key to analysis [14, 17]. Coders used a template with columns for transcript excerpts, codes, and comments. Coders further familiarized with the data by re-reading their transcripts and taking notes. Individually, and inductively, they coded their transcripts creating codes in English, while keeping a list of codes and their description as a way of keeping track of their own process. Then, they shared the coded data and discussed the construction of themes. The themes were refined in conversations among coders, and then proposed to the rest of the team for further discussion.

Research Methods	Latam-in-Latam (%)	Latam-out-Latam (%)
Interviews	22	25
Surveys	16	16
Participatory Design	15	17
Usability Studies	18	13
Field Study	10	12
Other	13	6
Ethnographic methods	6	12

Table 3: Survey: Research methods that HCI practitioners frequently use

7 THEMATIC ANALYSIS OF INTERVIEWS: HCI RESEARCH IN AND ABOUT LATAM

Our analysis characterizes HCI practices in the context of Latin America (RQ1). We recognize that these practices are not unique to the region, rather an account of how participants in our sample perceive their relation with (or lack thereof) the HCI and adjacent fields’ communities. Our data indicate that driven by a complicated relation with LATAM’s historical inequities, the Latin American HCI diaspora, the industry, and academia, participants emphasize technology design and research aimed at supporting social transformations. Such an emphasis, however, is hard to pursue: it lies in stark contrast with existing academic and economic structures in LATAM and beyond, while demanding the mastering of skills that the region’s infrastructures do not fully support.

International Conferences	Latam-in-Latam	Latam-out-Latam
CHI	4	16
CSCW	0	9
HCI	7	1
DIS	0	5
PervasiveHealth	1	3
Interact	4	1
HICSS	2	0
Ubicomp	1	1
TEI	0	2
Regional Conferences	Latam-in-Latam	Latam-out-Latam
IHC Brazil	9	0
CLIHC	6	1
MexIHC	3	1

Table 4: Survey: List of international and regional conferences to which respondents submit their work

In the following sections, we develop our themes, describing the critical concerns shaping how the HCI practice in LATAM pursues social change, the forces driving –as well as hindering– this practice, and the skills that this type of practice requires from HCI practitioners connected to LATAM, including the structural challenges preventing the development of such abilities.

7.1 HCI in LATAM: Practice Orientation

Our data suggest that, although manifested differently, the use of HCI-related methods and concepts in LATAM holds an emphasis on supporting social transformation.

For researchers, such as P01, who works in Computer Science, specifically around the creation of new technologies at service of society, this implies prioritizing the development of technologies that “*are well-thought and appropriately designed*” to address LATAM unique problems. These include “*immigration from Venezuela, social aspects, and discrimination*”.

For others, prioritizing social transformation translates into devoting most efforts to unpack how technology can support or deter social impact, locally, unveiling the “*technical, socio-technical, and epistemic infrastructures that these technologies create*” (P19). This can entail the use of methods such as iterative prototyping, “*combining a practice-based research approach with a design-oriented research approach*” (P20). For others, it can also translate into working with vulnerable groups such as low-resource communities to challenge oppressing systems that prevent them from vital resources such as water (P15).

Interviewees suggested that several factors motivate their desire to prioritize social change, from a rejection towards industry’s technology development paradigms stressing “*the attainment of metrics and algorithmic optimization*” over societal well-being (P13), to an exposure to –or expertise on– social sciences and humanities (e.g., psychology, education, art) that ignited a desire to “*go beyond deciding whether a line in the interface is nicer than other*” (P17) and rather “*understand people in a more anthropological manner*” (P7). However, a factor that most, if not all, participants indicated as prevalent was their experience witnessing the social inequities that pervade the region. P16 explains further:

“I think the way I see the topics I touch on my research also comes from my personal connection with Venezuela [...] for everything

me and my family experienced and still are experiencing [...] If my country was not undergoing a crisis, I would not engage so much in trying to understand how data is related to political issues such as inflation, violence, and social justice”.

It was the closeness to the situation at his home country what motivated P12 to move from his original field of expertise on collaborative systems to ubiquitous systems for aging. A gradual exploration of local hospitals led him to realize how dementia is often under-diagnosed and overall, ignored, in Mexico, and made him feel he needed to help things change. P8’s experience was similar, after seeing from a close distance the struggles that low-income children and mothers face when trying to access education and health services, she thought *“this is what I want to do, I want to design, implement and evaluate technologies that can give them a better life quality.”* We also found that participants shared a common appreciation towards qualitative and participatory approaches as a means to develop a caring, supporting relationships with these communities, engaging in a co-exploration of pathways for social transformation. P15 stated:

“I don’t know if this is methodological or ontological but, to a certain extent, it is my modus operandi. When I am to participate in a project that I am leading, the first thing I do is to understand what people need and what themselves, as participants, actually want to do. Anything that comes along afterwards starts from there.”

In summary, for researchers in and from the region, the pursuit of this research perspective entails careful consideration of three aspects of their practice. First, how to accept one’s responsibility in perpetuating techno-centric views of progress. Second, how to show respect to communities’ knowledge in regards to social change. Third, when and how much to reconsider academic views on social change. Next, we describe these guiding principles of HCI in LATAM in depth.

7.1.1 Responsibility. Interviewees shared concerns to act without enough care and responsibility towards the communities they work with. Specifically, they expressed a concern with the lack of reflexivity with which technology-based interventions that can do more harm than good are discussed and pushed externally, and a need for practitioners to devote more time to think before acting, so as to clearly define what actually benefits communities. Participants often reflected on how witnessing or participating in interventions that threw technology too fast into the world had shaped a commitment towards responsible HCI-related practice. P14, for example, commented on how the financial company they worked for insisted in introducing chat-bots in their communication strategies with clients without reflecting on how that piece of technology would work with their other strategies. *“They only wanted chat-bots because their competitors were about to introduce them and they did not want to be left behind. The result was a general confusion for clients and a huge delay in their ability to communicate with the bank.”* For P13, this type of techno-optimistic perspective pushed her to move away from industry-based technology interventions: *“it was just too big of a conflict for me to participate in the creation of technology that was so problematic in so many ways.”*

Overall, participants made a call for more carefully considering the implications of technology before thinking about using it. They also called for being careful with the interventions that practitioners

decide to support: *“If we go into a certain type of place where we know they engage in unethical use of AI, for example, we have to say something. Saying ‘I am only an engineer’, is not a valid excuse.”* (P7). As P6 explains, this careful understanding of responsibility is especially relevant in the context of LATAM communities, who can endure difficult conditions: *“we just need to see what agencies like ICE⁷ are doing with technologies and data and how it can be a double-edge source [...] if the data is in the wrong hands it can cause deportation or detention.”* Despite being critical about technological interventions, participants still thought technology could have a role and that it was worth exploring it: *“technology is not the solution and will never be the solution, but it might be able to help or support to mediate something”* (P20). As such, they tend to agree that it is essential to *“create spaces for reflection where we explore where technologies come from, what cultures they bring and what values they reflect”* (P19), as well as *“the systemic problems that users face”* (P13); only then should we move forward in defining *“what process are worth automating.”* (P14)

Similarly, a call for more carefully thinking what it entails to benefit communities also emerged as a part of how participants understand a responsible HCI practice. For P11 and P20, engaging in human-centered work with communities serves to *“bring something [of] value to users”* (P11), to *“try to see if we can generate some change and we can impact some of the lives of the people”* (P20). The case of P8 shows how, sometimes, this impact entails providing technological and human infrastructures to communities: *“we managed to put together a living lab for children within the autistic spectrum in the clinic we worked at and the lab is still working, it is a contribution to the community that keeps also feeding new academic projects.”* However, participants also clarified that technology is not the only outcome that reflects a responsible practice; it can be *“delivering brochures with the result of participatory design workshops”* (P20), or supporting communities in putting together *“an exhibition with the photos that the migrants took [...] so as to help spark conversations outside of academia as well”* (P6).

Interviewees, however, also highlight the difficulties arising when trying to enact responsible practices they champion. When working with industry actors, for example, time to reflect and reconsider is often scarce. For P14 and P13, there is always enormous pressure to get the product out as quickly as possible. From an academic perspective, the problem is aligning publication goals—and sometimes founders’ requirements—with communities’ expectations: *“you build a prototype, do your research, publish, and then you want to move on to another project, but your client might not”* (P16). Indeed, engaging in research entails communities accepting an exploration that can take more time than expected and *“does not guarantee things will work out”* (P8). Resisting, while still operating within industry and academic structures, requires researchers to constantly explore new partners and funds as well as growing a pool of experiences that can show how critical views of technology are worth the effort. For P19, LATAM can contribute knowledge about how to responsibly connect to communities: *“Relations are everything to us, right? Caring for others and knowing how to build a trusting relationship, that’s what we Latin Americans know how to do best!”*

⁷U.S. Immigration and Customs Enforcement

7.1.2 Respect. Aligned with our findings about participants seeking to foster social change, we found a strong rhetoric about pursuing an inclusive, respectful HCI-related practice, working “*from the perspective of design by all and design for all*” (P11). An overall goal to that end is to give the opportunity to those who are often left out to participate and have their voice heard. However, many interviewees also spoke about the dangers of championing inclusivity without really *respecting* the knowledge that communities and users bring to the table. As P15 explains, good intentions can sometimes lead researchers to disregard communities as the real experts in the problems at hand: “*We went into that recycling community thinking that we were going to help them, to teach them how to succeed, we were going to save them. Without realizing it, our motivation totally denied that the recyclers had many capacities to think and act*”.

Participants share, thus, a concern about practitioners really thinking about the user, “*having empathy, otherness, and equity with the people who will potentially use the technology you are producing*” (P11). As practitioners suggested, this entails rejecting practices that subordinate communities’ knowledge, such as abiding to the Western logic of technology equals progress (P15), acting as if the user does not know what they want (P11), and prioritizing the perspective of others who we might believe hold valid: expert knowledge, including academic notions of how participation should take place (P19) and even technological demands (P17). To that regard, a critical advice is to always “*ask yourself who are you making part of your research and who should be part of it*” (P18). As P15 explains, when researchers do not allow for time and space to recognize their limitations—in terms of knowledge and perspectives—they propose and lead to unbalanced initiatives: “*We got funds to help a community define how they wanted a water service to help them but we had written down the proposal and it was us envisioning how they were going to act in the project*”.

Three strategies emerged as common among interviewees’ view of a respectful HCI-related practice, that considers the existing power differential. First, to constantly remind oneself that, when working towards social impact, the learnings that emerge need to both stem from the community and go back to it: “*if I have a particular perspective, that’s what I see but, is it really what users see? In whatever I write about them, it’s important to hold myself accountable to them*” (P8). Learnings that respond to and serve communities, as P15 reminds us, can take different forms, many of which have little to do with technology, including knowledge about the community values. Second, to realize that the process of learning from communities—rather than extracting knowledge from them—requires time and effort: “*the researcher and the community need time to build trust, that is key to be able to do things together*” (P19). Third, to discard ideas of a neutral HCI-related practice and rather pursue advocacy in whatever we know to do best: “*before, I think that I was much more focused in trying to represent the data and trying to talk, you know, kind of like more of a neutral way. Now, I feel that the way that I write has changed. I am trying to be as vocal as I can about these problems when writing too.*” (P6)

7.1.3 Reconsideration. We found that a prevalent concern of interviewees is to reconsider what counts as a valid HCI-related practice. P16 explains that: “*What comes from the Global North is considered the standard [...] but if you do something in the Global South then it*

is exotic and special. It’s like if you run a survey about Trump in the United States, then that defines populism worldwide. But if you study populism in Venezuela then that is just an specific shape that populism has in Latin America.” In particular, participants’ experiences in, from, and about LATAM call for the field to reconsider its quest for generalization, its assumptions about a right way to work with communities, and its understanding of what HCI is.

Participants shared a strong critique towards the HCI and related disciplines’ practice to value contributions to the field in terms of their generalizability. However, what it takes for a lesson to be generalizable is not really clear. For P17—who explored technology design for LATAM families separated by migration—generalizability does not seem to be related to the number of users impacted by a particular design: “*although millions of people go through this type of separation day after day, it was hard for us to argue that this project was not ‘particular.’*” P3 explains how, generalizable contributions do not seem to be about ensuring equal impact to everybody either: “*many of these technologies for supporting remote classrooms would not work for our students; they require students to always have their videos on and assume students always have internet connection and computers*”. To have an opportunity to actually share non-generalizable technology design lessons, many of the practitioners we interviewed prefer to take their findings to local conferences, where audiences will care about “the particular.” P11 describes this trend further: “*They didn’t consider it a contribution because it wasn’t that innovative. It wasn’t that cutting edge. It was something that was social and regional. And then it started to be like, so we’re going to publish here since something that is regional is something that ‘only’ contributes to the region*” (P11)

Another call for reconsideration that interviewees expressed is the existence of an implicit “right way” for practitioners to connect and work with users and communities. For P19, the mainstream idea of participation assumes it only requires an invitation: “*we had this wonderful initiative and we were hoping for everybody to come and work with us but most people did not, the only ones who showed up were the elderly; the others did not have a real motivation to attend.*” Further, most of the mainstream discourse of participation describe it as often “*taking place thanks to the motivation of outsiders who invite communities*” (P18) and rarely touches on the “*great history of grassroots resistance movements in LATAM*” (P15). For participants, the academic, mainstream notion of participation also disregards how the need for an informal practitioner-community relation in LATAM completely re-configures “the right way” to work with communities: “*Informality makes them [community members] feel more relaxed, formality tenses them up. So giving them a document to sign, that is too formal and makes them suspicious about you. But to harness that openness that informality gives us and turn it into a really trusting relationship takes time and a lot of effort*” (P8). In such informal contexts, understanding “*when and where to leave more space*” (P6) can be a real challenge.

Finally, adopting an inclusive definition of HCI practitioner in this study gave us a glimpse of the different understandings that participants have of what HCI is, thus prompting a possible need to reconsider what HCI could be. We found that, while many practitioners engage in HCI-related practices (e.g., participatory design, co-creation, user research, testing, and more), the recognition of these practices’ relation to HCI as a discipline is still a work in

progress. Participants, such as P14 and P15, not only do not see themselves as members of the HCI field, but they also share a view of HCI as a discipline restricted to UX/UI design. Others explained how, in the region, many academics struggle to understand where the limits of HCI lie, often associating the discipline to others such as AI or Software Engineering.

7.2 Driving Forces and Tensions of HCI in LATAM

HCI practitioners connected to LATAM, as many others, produce, disseminate, critique and ultimately advance knowledge driven by different kinds of forces. In our interviews, we found that three critical forces are pivotal to drive –as well as limit– a Latin American HCI practice oriented towards supporting social transformation: 1) local-to-global diasporas, 2) the relation with the industry sector, and 3) higher education institutions. The following sections describe the strengths and weaknesses of each of these forces in detail.

7.2.1 Diaspora Effects in HCI Practice. Interviewees remarked on a trend for HCI researchers from LATAM to pursue their HCI specialization abroad. For P1, most of the colleagues in the research center she leads in Ecuador studied in countries such as Canada, Australia, Belgium, and the UK. The reasons vary, including a dearth of HCI graduate programs in the region and value that international credentials have locally. For P19, however, the connection to LATAM is always there: *“my ever-present need has always been to contribute knowledge to Argentina, to give something back in some way.”* We found that the experiences of the diaspora highly shape the fields’ practice, driving social change in the region. Further, when the diaspora connects back to the local, they enrich local practitioners’ collaboration networks, thereby broadening possibilities for pursuing projects that seek social change.

In a way, those moving abroad participate in a transnational flow of knowledge. They are able to juxtapose their local experiences with global views and, from there, generate new ideas that they often take back to the region. We found that a common product of this transnational flow is the development of a critical perspective about social issues. For P13, this flow motivated her to apply critical lenses to her research: *“I use value-centered design to understand the different values that shape these users [gigworkers] actions and critical theories to understand the systematic problems they are facing when engaging with AI algorithms”*. In other cases, the transnational flow of knowledge helped participants re-appreciate the knowledge that LATAM produces. For P7, for example, taking an anthropology class in a Canadian university prompted an interest in LATAM literature; *“my professor used to always warn me to not focus too much on Western material, but to actually read work from Mexico, to learn how to detach from colonial views.”* We also saw that this flow could result in a new understanding of how LATAM operates and why. P15, for example, shared how, after finishing her PhD abroad and engaging in work with Peruvian Indigenous communities, it became clear that the negative discourse the Peruvian society has about Indigenous groups stems directly from colonial structures.

The diaspora is also essential for enriching the collaborative networks in LATAM that can make local projects toward social change feasible. Those who travel abroad garner an important international social capital, and some, such as P19, actively seek opportunities to

connect that capital with the region: *“through my work in education, I have always tried to follow what is going on, in Argentina mainly but also across Latin America.”* The benefits of those connections are diverse, from enabling local researchers’ access to articles from the ACM DL and IEEE Explorer, to offering thesis co-advising, PhD, and student internships, to securing funding. Funding is particularly relevant for researchers in LATAM; access to funding opportunities is scarce and, as P8 explains, even when secured, they are restrictive: *“getting the university’s permission for buying equipment is really hard, and once you stop using it, you have to give it back to the university.”* The funding that members of the diaspora help to access is not only less restricted; due to the currency exchange, it covers more expenses. P15 explains: *“I got 9000 pounds, and with that money, I did a lot: I traveled to Peru, we all went to Cuzco, we did fieldwork, we organized events with about 10 community leaders and I brought a Peruvian colleague to the UK so that she can attend a workshop.”*

For members of the diaspora, however, it is not always feasible to pursue connections with researchers from back home. P6, who is located in the Global North, explains an example of the present constraints to establish diasporic connections: *“Latin America has a lot of universities that are doing great research and there is not a great push for people from the Global North to actually access that research or to accept that research into their venues.”* (P6) Another barrier from LATAM is local governmental policies for knowledge production. P8 explains how the priority towards journal publishing has hindered collaboration possibilities: *“they want to submit to conferences and just say they do not want to collaborate with me.”* P19 explains how she works around those challenges using personal trips back to Argentina and getting universities in LATAM to invite her to give talks. While those workarounds eventually lead to funding and other opportunities for local groups, the lack of institutional support delays it.

7.2.2 Relation with Industry. Similarly to other global regions, the industry in LATAM is the fuel that keeps universities going: industries provide students with on-the-job and post-graduation opportunities. We found, however, that regarding the HCI practice, academia and industry in LATAM struggle to find points of intersection that enable them to collaborate productively. Rather than hindering HCI’s research and practice as a whole, our data suggest that this misalignment steers the LATAM HCI practice to social change.

Several participants believe that industry in the region misuses its economic power; instead of using it to foster social change, it uses it to *“make rich people even richer”* (P8). Indeed, as P14 explains, the industry holds an important power to motivate change in the region: *“it is the private sector the one with more possibilities of enabling transformations in Colombia, more than the government and NGOs, and the reason is simple and capitalist, it’s because it has money and it has outreach.”* However, as P11 shares, the industry struggles to see benefits in investing in the work that public universities already do to motivate social change: *“there is no clarity in how a public institution, which is for the public good, can materialize something for them.”* Together with this critique lies a concern towards industry practices motivated by productivity, which participants deemed as *“championing technology adoption without reflecting on the impact*

it can have” (P19) and seeking “*quick results instead of actually analyzing in more depth what is really happening in people’s lives*” (P13).

As a result, several interviewees perceive industry’s goals and values as a limiting factor to achieve social change and actively decide to position their practice in opposition to the industry’s productivity-centered goals. They not only work on research projects that cater to historically marginalized populations but prioritize addressing local problems and giving back to their communities. For P13, her decision to work with various communities of gigworkers came after realizing the injustices that the industry tends to create for these workers: “*what I care about is thinking about the worker and understanding the worker’s reality, and then design for them.*”

Despite these tensions, HCI practitioners reported that the industry might be experiencing a period of change that might ease frictions and bring the industry’s vision closer to societal goals. P14, in particular, explained how this change is taking place in Colombia: “*we are seeing an important change of mindset; the private sector is now finally trying to understand its user, so that companies do not sell exclusively what they want but what the user needs.*” A greater number of technology-based start-ups in the region, led by practitioners with experience in social issues is appearing, and the result is already palpable: “*when you change the approach and restrain from immediately jumping to develop something, growth opportunities are clearer than ever*” (P14). Along with this change comes also the possibility for these more socially responsible practitioners in the industry to engage in important collaborations with academia via mentorship, showing recent graduates how the industry is changing and sparking ideas of how to further support such a change.

7.2.3 Academic Institutions. Data suggests that academic institutions in LATAM provide a unique space for motivating HCI-related work towards social transformation in the region. However, the governmental structures and policies regulating knowledge-production goals and funding for higher-education in LATAM countries, limits researcher’s possibilities for conducting projects with communities, as well as the human resources they can resort to for support. This hinders the impact their work can have in international communities. Overall, these restrictions increase the work that Latin American researchers have to do in comparison to the expectations of work in mainstream HCI geographies.

Many universities in LATAM, participants reported, emphasize a commitment towards addressing local problems. This can entail the creation of community outreach programs for helping students engage with societal issues. During her undergraduate education, P15, for example, received university funding for setting up a certification program that could help garbage collectors in Lima to keep their jobs. While the financial support was not much, it helped P15 and her classmates to have a first encounter with community-based work: “*it was one of the greatest experiences of my life, that’s where I learned the relevance of working with people*”. For P1, the universities’ mission of responding to society also leads researchers to reassess their work: “*Our university has been quite critical about the real-world application of the work that we do. They worry that what we build might not be useful or even easy to understand.*” Interviewees also shared a view of LATAM universities as providers of a holistic

quality in education; universities in the region oftentimes guarantee students and researchers access to experts in social science disciplines, fostering social justice views via “*book recommendations about physiology and feminist readings*” (P13), “*opportunities for multidisciplinary collaborations*” (P12), and overall guidance in how to apply non-technical views to the technology design practice.

Despite offering spaces that can foster a socially responsible HCI practice, when it comes to supporting a socially-oriented HCI research, LATAM universities face various structural limitations. Local universities demonstrate an intention to support research by offering “*existing equipment and office supplies*” (P2), “*rooms for holding meetings with participants*” (P11), “*support letters for reaching out to partners*” (P2), and “*partial funding to specialize abroad*” (P17). However, researchers were also keen to express that, more frequently than not, financial limitations and national policies impacting universities limit their work, for instance, by hindering possibilities to offer compensation that can actually motivate participants (P8, P9, P3), buy and keep equipment (P1 and P8), attend conferences where they can meet collaborators (P8, P9, P3, P17), and fund research assistants and PhD students—which are helpful to better distribute the researchers’ workloads (P1, P3). Confounded with the lack of financial resources, national policies across LATAM countries determining what is a valid venue for publication limits the outreach that researchers can have in HCI-related fields globally. While nationally and institution-wide, researchers in LATAM face great pressure to ensure their work has visibility, the policies determining where to publish do not seem to support that goal. Some participants provided specific examples of venues and types of publications required by their institutions. For example, in Brazil and Ecuador, requirements limits valid publications to conferences such as CHI or CSCW, which “*are super complicated to get in and demand a lot of work*” (P12). In Mexico, national policies stemming from “*physicist and biologists*” who do not value conferences, limit valuable publications to journals, which goes completely against the global tendency of publishing HCI-related knowledge in conferences.

Overall, the limitations that academic institutions impose increase the workload that LATAM researchers have in comparison to the expectations of work in institutions outside of Southern geographies. The lack of time left, as interviewees explained, is a barrier to promote investigations that can have the desired social impact. As an example, one participant that studied in abroad and went back to LATAM explained: “*when I was at MIT it was very different, the focus was 100% research and thus you can connect with the user who will participate in your interaction design process, and that is very good. But when you have classes to teach, when you have capstone to advise, when, for example, you don’t have the money to pay for a programmer or to pay for a person who does a design. So this all has an impact on the research.*” (P11) It is to be said that this difference is also representative of institutional privilege, speaking to a wider phenomenon of transition between universities with different financial possibilities. According to our participants, LATAM Universities struggle to recognize these limitations and, in their quest for visibility and social impact, tend to put even more pressure on researchers who seek to enact change, without realizing that the number of hours they count as research hours “*are simply not real*” (P17). As P3 shares, “*it all becomes a big mountain of things that I*

have to do, I have to make the best I can with the limited resources I get, train assistants and also make sure I publish the minimum the university requires me to” (P3).

7.3 Expected Skills and Challenges

As the practice of HCI becomes more prevalent in the industry and academia, globally, practitioners are being asked to develop multifaceted skills. In the case of LATAM HCI practitioners, there are specific skills that participants mentioned as critical to master for engaging in work that supports social transformation while pushing for more visibility of the field beyond the region. These are: being a translator across multiple stakeholders, a connector that self-promotes by building networks of peers and collaborators, and an engineer that masters technological skills. It should be emphasized that, while developing and putting these skills in practice might be expected in other geographies, LATAM’s structural challenges make these skills hard to secure for most citizens. Next, we describe the implications of having and mobilizing these skills to make HCI a field that supports social change in LATAM.

7.3.1 Being a Translator: Mediating Skills to Support Organizations-Community-Peers. Traditionally, HCI practitioners around the world seeking social impact need to clearly translate the benefits of interventions to funders and supporting organizations, communities, and collaborators. For P4, a clear translation of an intervention’s benefits to decision-makers—such as governmental offices, supporting organizations, and communities—is often *“more important even than investing time in developing and testing prototypes”*. Having decision-makers on board not only helps to secure different types of resources; their buy-in helps to formalize the project, *“making it clear to everybody else that ‘this is the team’ and we are moving forward”* (P3). We found, however, that in the context of LATAM, the work of translating intervention’s benefits is really laborious, arduous human-to-human work requiring practitioners to move across informality and formality to bring stakeholders on board while constantly reading, translating and managing power differences.

Also, to translate interventions’ benefits to funders and decision-makers in LATAM nations is critical to master the historical circumstances that led to power differences among stakeholders so as to avoid intimidation. P15’s experience about her work trying to support indigenous groups in Peru highlights what this skill entails: *“government people as well as academics, and experts in innovation, have a very negative idea about Indigenous communities [...] I think it is all because of this colonial logic that remains ingrained in our political and public institutions, that indigenous groups are a problem and an obstacle to our development.”* Moreover, it is crucial to know how to move from close, informal relations to formal ones, gradually, or as P13 calls it, to know who to *“cabildear”*: *“building connections with different people, presenting them your project and getting their buy-in so that they can support you when you present it to larger actors.”* For P12, in LATAM, *“much of what we are able to do is via the personal contacts we make in our work.”*

Knowing how to move from the informal to the formal is also needed when engaging in translation work with communities or users. However, in this case, data suggests these skills need to take a different form so as to engage in a gradual translation of benefits. To be part of a technology design or study entails a time investment

that participants might only be able to get if immediate benefits and protection to potential harms are guaranteed. In the Global North, as P8 explains, infrastructures such as Mechanical Turk help giving participants a sense that those guarantees are met. P2’s experience trying to work with immigrants in the United States and their families in Mexico describe the hardships of meeting those guarantees in LATAM: *“the children living the United States were afraid that, in participating, they’d be discovered by Customs and then they called their family members in Mexico and told them to also say no to the study.”* For P8, to face these issues, HCI practitioners in the region must reach out and engage with communities informally while making formal, small commitments using academic resources to demonstrate the benefits that their relation produces: *“You have to give them a bit of what they need. Maybe they want an app to capture data, well then I give my undergraduate students a project where they build that app.”* This approach, however, entails more work than is often valued or recognized: *“is exhausting, with every new project and every new community you have to start from scratch, and it can indeed be an obstacle for a project to take place”* (P18).

A final type of translation we found practitioners must do is among peers, especially when working with multidisciplinary teams. In this case, data suggests practitioners working in LATAM must be skillful in disregarding power differences, willing to do more work that they should and face uncomfortable situations to ensure peers see benefits in collaborating with them. Globally, HCI-related projects, that pursue social impact, require practitioners to be *“open to other disciplines”* (P4); experts in different methods and areas are essential to the success of an intervention. However, we found that for practitioners working in LATAM—where HCI is not a well-known or even regarded field yet—collaborative, multidisciplinary work has other benefits, allowing them to show local peers what HCI-related ideas and techniques can add to projects in the region. Regarding international collaborations, it is a chance to demonstrate how capable local HCI practitioners are. To that, their translation work entails working along with—rather than against—power differentials by making compromises (e.g., agreeing to publish their work on venues outside of their discipline - P20 and P12), doing extra work (e.g., translating notes from meeting with international peers - P3), and mediating conflicts even when that generates great social discomfort. P5’s experience exemplifies the implications of this type of translation work: *“my supervisor wanted me to do one thing and this other person involved in the project wanted me to do another thing and I was a carrier pigeon from side to side.”* In this context, it is essential for practitioners to also learn how to prioritize their goals and the communities’ during their translation work.

7.3.2 Being a Connector: Research Community-Builder and Public Relations. Data suggests that HCI practitioners—especially those who are in their first years in academia—need to be skillful in building as many connections as possible to build capacity and gain visibility and respect in their communities. For our interviewees, however, the end goal is not only self-promotion; it is also about *“building more presentation for their countries”* (P18) and ensuring *“that Latin Americans have a voice as leaders in the area”* (P13) and that they become an inspiration for others in the region (P5 and P6). P3’s comment summarizes this sentiment: *“it is about showing that we are also in the game, that we, coming from developing countries in*

Latin America, with a last name that almost nobody can pronounce, that we can also compete, being in those top conferences, it feels really good” (P3).

To that regard, we found that LATAM practitioners engage in many of the same activities other scholars around the world do, including “attending conferences, meeting people, know their research and establishing collaboration relations from there” (P11), overcoming culturally-ingrained discomforts of self-promoting and reaching out to scholars directly or setting up LinkedIn and Twitter profiles for self-branding (P6, P13, and P18), and keeping track of opportunities that fund collaborations (P12). For P8, however, for Latin Americans in LATAM, the main goal is to build as many international connections as possible; this is what can really give more visibility to the region: “it is a matter of generating credibility and, in my experience, the one thing that gives you that is international collaborations; sometimes it is the only way a paper from Mexican institutions will get in these big conferences” (P8). Many practitioners suggested a preference to ensuring these international connections entail working with Latin Americans; “it is interesting because we are different but, at the same time, it is easier to understand each other” (P12). Speaking the same language—in the case of Spanish-speaking countries—is definitely an advantage, but it is not only that. It has more to do with how relation-building takes place in the region; “it is a real pleasure, it is more spontaneous, less formal, less rational” (P19), “it makes you feel like at home” (P12).

Despite the desire to connect with other Latin Americans, especially with those abroad, we found that doing so is extremely hard. As mentioned before, attending international conferences to find them is not feasible for many practitioners in LATAM and aligning publication goals can also be hard given the ways in which academic institutions measure researchers’ productivity. Further, the LATAM HCI practice—even within the same country—tends to take place in silos. Locally, HCI practitioners “are not too many and thus, it is hard to find them” (P9). Locally and internationally, however, the main issue is “not knowing if there are any coincidences and interest to do things together” (P1); more visibility about working goals, P2 and P8 reflect on, is essential: “we need to know that they are there, what they are doing, and where they are going” (P8). The strong tendency to cite mostly work outside of the LATAM scope to ensure an academic conversation with a more global community works against the need for finding Latin Americans. When LATAM practitioners cite work based on “the reputation of the journal where the work was published” (P2), “the ones that people have cited the most” (P9), “the university the academics who wrote it are coming from” (P3), and whether it is written in English or not (P5), they are unintentionally moving away from connecting with other Latin Americans.

To move forward, interviewees suggest that organizations such as SIGCHI and local networks in the region need to continue investing in spaces where Latin Americans can learn about each other (P18, P11, and P12). They emphasize, however, that these spaces must invest in good publicity across networks (P11), emphasize informality and ensure a small time-investment (P8), and more importantly, enable participants to engage in small, goal-oriented collaborations (P12 and P8).

7.3.3 Being an Engineer: Technical Knowledge, Skills, and Abilities. Another skill that interviewees often feel they are demanded to master is being an engineer. With that, we do not mean necessarily having an engineering degree, but exhibiting engineer-like characteristics according to local standards (e.g., being a man and mastering technological and quantitative analytical skills). While globally, the field of HCI is often presented as multidisciplinary, its roots in computer science and engineering drive HCI educational programs to be often placed within those university departments. We found this trend to be strong in LATAM countries, where the field is undergoing a process of self-definition, and colonial structures still place a high value on what gets perceived as hard science.

As a result, HCI falls into the culture and idiosyncrasies of technological disciplines. Naturally, this leads to a bias towards technology skills and presents a variety of effects [52]. For example, P13 shares how, during her undergraduate studies, professors and students in her computer science program constantly looked down at the HCI class—and anything related to interface design for that matter, describing it as “silly” and “easier than the rest.” As HCI struggles to be seen as an exact science, practitioners also struggle to establish credibility for their methods and findings. For P20, the qualitative nature of HCI work often needs a justification and in-depth explanation when applied in LATAM contexts: “if they’re coming for another discipline, they don’t value anything that is related to interviews, focus groups or anything that is qualitative. They value more what they implement.” Finally, HCI inherits some of the negative biases already identified in the engineering field regarding gender [102]. This experience was cited by P14, who mentioned “I’ve always been the weirdo. Because I have always been the only woman in a world of engineers, the only woman not an engineer in a world of engineers.”

The ongoing association of HCI with computer science and engineering disciplines also makes it difficult for HCI educators to motivate the need for helping students develop the necessary HCI-related skills. For P17, in a world of computer science and engineering students and professors, HCI skills such as “communication skills and interpretation” can not only be devalued but repelled. Under that lens, HCI practitioners might be perceived as “the person who speaks nice” or “the person who makes things look nicer” (P4), which in turn, can have a negative effect in practitioners’ self-perception. P13’s comment further elaborates on the impact that negative stereotypes can have in one’s practice: “it was really hard, emotionally I mean, realizing that your work does not matter but you have to learn that it is not your fault, it is simply stereotypes that people have.”

To be the engineer that the practice of HCI demands in LATAM, thus, practitioners must be often find ways to build credibility, which requires much self-confidence, willingness to demonstrate that “I am not ‘pintada en la pared’ [I am not a ‘wallflower’]” (P14).

8 DISCUSSION

The field of HCI and its communities evolve dynamically. Although work is being done to understand how the field takes shape globally, little has been written about how this process is unfolding in LATAM. Our findings shed light over this gap by foregrounding an HCI research perspective for LATAM in the making (Section

7.1), describing some of the driving forces at play in this process (Section 7.2), as well as the competencies required to participate in the field (section 7.3). Altogether, these aspects are a step towards helping painting a comprehensive picture of how HCI is practiced in LATAM (RQ1), considering the influencing factors and challenges encountered by practitioners in the region (RQ2-3). Attending to these aspects in ways that build from these findings and disrupt the colonial character of some of the HCI field structures is a generative area for future work.

In this section, we discuss how the building of an HCI community in LATAM is supported in the building of relationships and how these relationships can be used to scaffold a structure to pluriversalize HCI (Section 8.1). We consider the nascence of a social justice-oriented research and practice perspective for HCI in LATAM (Section 8.2), and provide insights into how to expand and better understand these factors across HCI communities worldwide. We close with a discussion on the limitations of our study (Section 8.3).

8.1 Building a LATAM HCI Community by Building Bridges

HCI's recent commitment to social justice opens the door to bridge with a long-standing tradition of emancipatory work in LATAM, while creating space for multiple other connections. Our findings show HCI practitioners in LATAM reflexively (re)considering established concepts and methods in mainstream HCI as evidence of this bridging. At the same time, the insurmountable amount of skills required from HCI practitioners today, along with the failure of educational infrastructures in LATAM to meet these demands, seem to be pushing HCI practitioners in LATAM to travel abroad for training, creating fertile terrain for collaborations. One of the strongest forms of this exchange that we found in our analysis are diasporic relationships: HCI practitioners from and working within LATAM finding each other to forge solidarity. Our findings show that a strong sense of belonging from LATAM practitioners abroad and/or the push for solidarity from practitioners in LATAM creates the space for these connections to take place. Distinct aspects of HCI in LATAM illustrated in our findings (e.g., participant recruitment and incentives, the role of local languages, approaches to consent) give form to these transnational relationships and makes them pivotal for how the field is shaping in the region, in line with [105]. That said, forging and maintaining global connections, we found, is not a task easy to attain. Bureaucracies, faulty systems, and misalignment within both academia and industry, for example, can become an obstacle. At the same time, LATAM practitioners are required to participate in the global HCI stage in order to sustain these relationships, often with fewer resources than several of their counterparts. It is important to observe that this constant exchange between geographies comes with its downsides. We found that in replicating initiatives and infrastructures from the Global North, LATAM practitioners are prone to mimicking faulty structures within both industry and academia (Section 7.2.3). At the same time, these practitioners are encountering the very colonial structures described in the literature regarding the use of research methods, dominant discourse, language usage, and knowledge production, among others [63, 90, 104], once again, running the risk

of replicating them. The characteristic aspects of HCI practice in LATAM, with its relational nature, and the dynamics of such nature, delineate a roadmap for HCI communities to engage with each other. In building upon the particularities of how HCI is taking shape in the LATAM region, while at the same time neutralizing the challenges practitioners currently face, we foresee a concrete path towards a pluriversal HCI. We recognize that taking us closer to this vision will require many more voices from within LATAM. Our analyses represent only initial steps in that direction.

8.2 Configuring a Social Justice Oriented LATAM HCI Community

Our findings reveal a common thread across how these practitioners are going about their work: an orientation towards social justice-based practice, more often than not, at a local level. As mentioned in the previous section, this is not unique to practitioners in LATAM but also to those abroad which helps explain the strong gravitation around the diaspora. The consolidation of this trend as a thread in HCI's research perspective in LATAM is defined by a sense of responsibility, respect towards partnering communities and a subversiveness towards established norms in mainstream HCI. This is represented, for example, by the prioritization of the responsibility over how to connect with communities, over industry's goals (Section 7.1.1), as well as by a deep appreciation of participatory methods, and connection to their practice through lived experiences of injustice. These practices and their accompanying cultural factors, influence and permeate the way HCI research is conducted in LATAM. We want to highlight that this aim toward social justice is not only present in the LATAM HCI community, but also in other communities [40, 55]. Nevertheless, values and goals of LATAM HCI practitioners are not always aligned with the institutions they contribute to, both within academia and industry. For example, albeit solidarity commitments with communities partnering with practitioners, industry stakeholders appear to respond to capitalistic incentives over social transformation goals. This misalignment of goals can be partly explained by the legacy of western colonial dynamics with which the field developed since its establishment, as discussed in Section 3.1. They can also be a result of how young formalizing efforts within the HCI field in LATAM are. These growing pains can well be part of a larger transformation in the field across different geographies in the Global South. Future work exploring the nature of HCI communities in other geographies could shed light on this. The social justice oriented picture that emerged from this study, brings with it complications to achieve this research perspective (section 7.1). Socially oriented projects require practitioners to operate at multiple technical, communication and management levels, while interfacing with a myriad of stakeholders locally and abroad. In getting projects off the ground, some of the practitioners in our sample are investing their own money in order to launch and/or sustain initiatives. At the same time, academic institutions do not seem to have the necessary expertise and infrastructure to help practitioners develop these skills in the face of an ever-changing HCI praxis. How much of this preparation is available to practitioners in LATAM or worldwide, remains an open area of research. Although preoccupations with work connected to society are not unique to LATAM, our interviewees accounts seem

to suggest it as a central theme in how HCI is configuring in the region. Given the rich knowledge production and activism throughout the region with regards to feminist and decolonial studies of technology, this is not striking. However, our analysis suggests an emergence of an increased interest in decolonial analyses by participants in our study. Along with social justice work done in this direction from other geographies, these moves within HCI communities can be a response to a broader reconfiguration within the field. Thus, they can be taken into account in research done within mainstream HCI, when engaging with the LATAM community or when designing technologies for users in the region.

8.3 Limitations and Future Work

Our study focuses on the experiences of a specific subset of HCI practitioners associated with the LATAM region, not as a portrayal of HCI in the continent, rather as a snapshot in time. These participants are impacted by a transnational movement which influences their views of HCI, oftentimes using the USA and Europe as a reference point for comparison. Future work is needed to develop a more detailed understanding of HCI communities in other geographies in the Global South, particularly in light of our study's sample size and the limitations imposed by such transnational movement. Regarding representation, although we controlled to cover several regions of LATAM, we do not claim an exhaustive representation of all countries. While a significant portion of the countries in the region are not present in our study, our sample seems to follow the trend of development of local HCI communities (e.g., large concentrations in Mexico, Brazil, Colombia and Argentina). We acknowledge the tension inherent in this arrangement, especially as it reveals the potential for privileged groupings within HCI in the region as a result of dominant HCI discourse. Further work can shed light on this phenomenon. Our findings do not aim at statistical significance, but at providing an exploratory view of the perspectives of LATAM HCI practitioners.

Being the authors HCI researchers from various nationalities, intrinsic bias may have affected the outreach of study advertisements, since we shared the call –among other channels– through our social media accounts and other online spaces. In addition, our call did not explicitly highlight an interest in reaching fields that intersect with HCI. This is likely to have failed at motivating individuals or communities in/from LATAM that do not identify as HCI to participate, but that could have been eligible had they started the survey, given our broad criteria. Finally, although all authors are experienced in HCI, our specific backgrounds and focus vary (quantitative and qualitative approaches, theoretical and practical lenses). And, we further recognize that the authors' privileges of receiving formal training and experiencing other cultures bring particular perspectives to the table. Thus, our study was not just informed by the authors' epistemic commitments but also shaped by exchanges and negotiations during the research process.

Given the vibrant history of feminist work in the LATAM region, specifically connected to technology studies, we recognize this is important as a critical lens. However, this was not a factor in the design of our interview protocols, therefore, data analysis did not show this as a prominent theme. We encourage researchers to build upon this work by integrating a feminist perspective that

crosses recruitment, the definition of what HCI is taken to be, all the way to the analysis stage, helping to shed light over the gender implications of how HCI takes shape in the region.

9 CONCLUSION

In this paper, we present the findings of an online survey and subsequent interviews with HCI practitioners from LATAM and/or working in LATAM or with LATAM populations, geared towards expanding the understanding of how the HCI community is forging in the region. Our analysis shows an HCI community in the making, strongly supported by relational factors such as diasporic relationships or local community connections. We found a strong sense of social responsibility within participants, regarding the way they think and approach their HCI practice informed by lived experiences or critical examination of well-positioned HCI methods/concepts. These findings offer a deeper understanding of the challenges and mechanisms to navigate them that are characteristic in the LATAM HCI practice. We argue that this knowledge can build foundations to construct a more plural perspective of the field, to forge less colonial relationships with HCI sites in the Global North, and to avoid perpetuating the existence of research silos and power imbalances. We further show how these moves can be part of a larger transformation within HCI. We conclude by inviting practitioners in other geographies in the Global South to delve into how their HCI communities are forming.

ACKNOWLEDGMENTS

We dedicate this paper to our *hermano*, late friend, Oscar Lemus. Thank you for your contributions to this work. Your wisdom will never be forgotten. We miss you.

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