Pronouns in the Workplace: Developing Sociotechnical Systems for Digitally Mediated Gender Expression

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Sharing personal pronouns (such as they/them, she/her, or he/him) in the workplace helps colleagues respectfully address each other. Many companies currently seek to design and implement new software tools to facilitate pronoun-sharing among employees. This paper analyzes the social processes of communication about pronouns in the workplace and identifies best practices for creating and using workplace pronoun-sharing software. We conducted 78 semi-structured qualitative interviews with various stakeholders involved in the launch of pronoun-sharing tools in workplace collaboration software, including transgender and queer people, HR and IT professionals, and LGBTQ advocacy organizations. We used an anthropological approach to qualitatively analyze interview materials and notes from interactions with research participants. We find that sharing personal pronouns is an ongoing communication process rather than a single act of information provision. Pronoun sharing tools encapsulate the tension between dynamic social processes of self-expression and technical systems of classification and information retrieval. People communicate their pronouns differently as they navigate identity expression across social contexts. Sharing pronouns is therefore both an individual expression of self-presentation and a complex act of social communication. Developers must create new methods for building pronoun-sharing tools that equip people to control ongoing social processes of self-expression instead of using an information retrieval approach that treats pronouns merely as stable, unchanging data.

CCS Concepts: • **Human centered computing → HCI theory, concepts and models**, *Human centered*; • **Computing →** Collaborative and social computing theory, concepts and paradigms, *Human centered*; • **Computing →** Social media; • **Human centered computing →** Empirical studies in collaborative and social computing

Additional Key Words and Phrases: Pronouns; online identity; workplace software; social media; gender; sexuality; language; LGBTQ; transgender; nonbinary

ACM Reference format:
Benjamin Ale-Ebrahim, Tristan Gohring, Elizabeth Fetterolf, Mary L. Gray, 2023. Pronouns in the workplace: Developing sociotechnical systems for digitally mediated gender expression. *Proc. ACM Hum.-Comput. Interact,* 7, CSCW1, Article 83 (April 2023), 34 pages, https://doi.org/10.1145/3579516

1 INTRODUCTION

Personal pronouns, such as she, he, and they, are one common linguistic tool that English speakers use to describe the gender of someone referred to in conversation or writing. As the future of work

2573-0142/2023/April – Art 83 $15.00

https://doi.org/10.1145/3579516.

trends toward greater remote collaboration, English speakers are connecting more closely with people around the world who have names we may have never encountered before. In addition, as trans and nonbinary people continue to build space for themselves and advocate for acceptance at local and global levels, there are more and more people who identify as genders beyond 'male' and 'female' and use pronouns that do not align with normative linguistic expectations of a gender binary in English. These factors make communicating one's gender and correctly recognizing someone else's gender more complicated. The implications of greater global and gender diverse networks are particularly pronounced in formal work settings where people may be meeting for the first time over a range of communication technologies yet are expected to maintain ties from a distance. Across many consumer-facing products, such as Facebook, Instagram, LinkedIn, and Zoom, pronoun sharing options are becoming available in user profiles and virtual meeting settings to help people navigate these trends.

In analyzing the example of pronoun-sharing software and their effect on trans and nonbinary[1] inclusion in workplace and educational contexts, this paper confronts challenges in creating technical mechanisms for gendered self-expression that contends with the complexity and range of social contexts that shape the possibilities of self-presentation. People communicate their pronouns differently as they navigate gender expression across social contexts [40]. We argue that sharing pronouns is an ongoing communication process rather than a single act of information provision or retrieval. Yet, current profile design standards encode a person's gender identity as static rather than contending with the reality that identity is social, changes over time, and is enacted differently across contexts. As many companies currently seek to design or implement new software tools to facilitate pronoun-sharing among employees [18], they encounter a tension between dynamic social processes of self-expression and technical systems of classification and information retrieval.

CSCW scholars have observed that social media platforms can provide a space for users to experiment with identity and navigate potentially sensitive disclosures [15, 22, 33]. Other studies have considered how power dynamics such as misogyny, sexual orientation, and status affect workplace communication [23, 27, 30, 55, 63]. However, the CSCW literature has not yet examined the relationship between workplace communication and pronoun sharing. Workplaces are high-stakes social environments where communication is shaped by hierarchy and power dynamics [30, 23] and are distinct from social media platforms in which pronoun-sharing tools have been adopted in recent years [20, 46].

At work, the social stakes of gender non-normative self-expression are high. According to the U.S.-based National Center for Transgender Equality [56], "more than one in four transgender people have lost a job due to bias, and more than three-fourths have experienced some form of workplace discrimination," with trans people of color facing even higher rates of workplace discrimination. While the landmark U.S. Supreme Court case *Bostock v. Clayton County*, decided in June 2020, ruled that federal law prohibits anti-transgender discrimination in employment, many trans and nonbinary workers in the U.S. have yet to feel the effects of this legal protection and many report changing jobs because of discrimination or the threat of harassment [56]. Sharing pronouns in the workplace can surface the power differentials that exist among employees and management

[1] For the purposes of this paper, we define *transgender* broadly as any gender identity that does not always or completely conform to one's gender assigned at birth. *Trans* is an abbreviation of transgender, and we use the two terms interchangeably. *Cisgender* refers to people whose gender identity aligns with their gender assigned at birth. We define *nonbinary* broadly to mean any gender identity that does not always or completely align with the Western binary genders of man or woman. Our definition of transgender is generally inclusive of nonbinary identities. However, not all nonbinary people identify as transgender, and we name both categories here in the interest of being as inclusive as possible. When referring to individuals, we always conform to the terms they use to describe their own identities.

because a person's income and career prospects are often on the line. It is important to study the social effects of this technology to determine how software can help facilitate diverse gender expression rather than contribute to the surveillance and further marginalization of trans and nonbinary people at work [14].

Pronouns are one important component of gender expression that we focus on in this study. In English, speakers use gendered pronouns to refer to people in the third person (e.g., "I met her yesterday," or "they left me a note on my desk"). Although individuals' personal pronouns do not precisely index to their gender identity[2], their pronouns are a part of their gender expression and constitute a critical aspect of respectful communication. Misgendering can create significant distress for trans and cis people alike, while correct gendering can be affirming and promote inclusion. For trans and nonbinary people, however, the social stakes of correct gendering are particularly high, as they face bias and discrimination in the workplace [56], the perception by cis people that their pronouns require "excessive" effort [2], and potential negative emotional consequences [41]. Workplace pronoun-sharing software attempts to intervene in the problem of misgendering that many transgender and nonbinary people face at work. Developers must create new methods for building pronoun-sharing tools that equip people to control ongoing social processes of self-expression instead of using an information retrieval approach that treats pronouns merely as stable, unchanging data. Drawing on our research findings from a study of digitally mediated pronoun sharing in the workplace, we propose a new set of design standards and best practices for pronoun sharing software that can begin to bridge the gap between information provision and interpersonal communication.

2 BACKGROUND AND LITERATURE REVIEW

2.1 Information and Communication

Within institutional settings, individuals must navigate a range of official actors and systems to verify and authenticate their identities. Our research finds that many current pronoun sharing tools approach gender identity through the lens of information storage and retrieval rather than as an ongoing process of dynamic social communication. This is especially true in workplace collaboration and meeting software such as Microsoft Teams, Zoom, and Google Meet, which are often set up to pull name and pronoun data from static information stored in human resource (HR) management software (HRMS) systems like PeopleSoft and Workday. Unlike social media platforms that have recently released pronoun sharing tools, software systems in educational and enterprise settings encode pronouns as one field alongside a range of others within a person's profile that are managed by HR and IT professionals, such as name, gender, and title. In Table 1, we compare the relative capabilities for pronoun storage, visibility, and customization in remote meeting software, HR management software, and social media platforms. Through lack of customization and individual control, workplace software systems operationalize pronoun sharing as a moment of identity verification and authentication within a broader information ecosystem managed by multiple actors, including HR and IT professionals, state-issued documents, organizational norms and regulations, and individual profile holders. As Spiel [67] demonstrates, these technological infrastructures often encode gender as a fixed data point, with little room for flexibility or capacity to accommodate non-normative identities.

[2] It is possible, for example, for a man to use she/her pronouns or for a nonbinary person to use he/him and they/them pronouns. Therefore, one cannot infer a person's pronouns from their gender identity or vice versa.

Though there are more opportunities for visibility control and customization (see Table 1), pronoun sharing features on social media also fall short. Whereas pronoun sharing in institutional settings is encoded as a matter of identity verification and authentication, pronoun sharing on social media platforms is operationalized as a tool for categorization. As a "set of boxes … into which things can be put" [9, p.11], the function of pronoun sharing features on social media, especially platforms that rely on targeted advertising, is often about categorization according to gender in order to monetize a user's personal information. Systems that approach pronoun sharing as matters of categorization and/or identity verification foreclose a meaningful way of facilitating the process as a moment of communication and impression management [31].

James Carey theorized communication as a ritual act that we perform together. In an age of digitally mediated expression, those rituals are also driven by the 'pre-reading' we can do--the information retrieval we engage in--when viewing profile details, previous comments or other attributes affixed to one's digital persona [62]. As Sen [62] argues, "information as ritual does for the contemporary self what communication as ritual does for society" in that it creates a paradox of feeling both at once individuated and hyper-connected. Among the most salient acts of "pre-reading" that software users draw upon in communicating their gender in virtual environments are sociolinguistic norms of gender expression that are unique to each linguistic community. For example, personal pronouns are a primary way that English speakers express gender through language [52, 11]. However, not all languages index gender in the same way as English. In some widely spoken languages, such as Turkish [12], Persian [39], and Indonesian [8], personal pronouns do not signal the gender of the person they refer to, instead using one single gender-indefinite third-person pronoun for all people regardless of their gender expression. In other languages that do index gender through pronouns, such as English, Arabic, French, and Spanish, pronouns are currently an active site of contention where LGBTQ activists and language reform advocates are working to develop new nonbinary or queer-affirming pronoun options [58, 71, 3, 4]. Software systems must be designed in a way that is sensitive to how sociolinguistic norms of pronoun use and gender expression are always in flux as activists around the world work to combat stigma and build more space for trans and nonbinary inclusion in the domain of language [59].

2.2 Gender Identity and Expression Are Contextual

Sociologist Erving Goffman [31] offers a productive framework for analyzing identity expression and the management of social stigma by focusing on communicative acts. People facing stigma employ a range of strategies to manage discrepancies between social expectations and the reality of their identity according to their immediate goals, including passing, self-disclosure ('coming out'), and covering [31, p.92-102].

Table 1: Pronoun Control, Storage, Visibility, and Customization on Workplace Software Systems and Social Media Platforms[3]

Platform type	Platform	Control	Institutional storage and use	Visibility	Customization
Remote work software	**Microsoft Teams**	Pronoun sharing not available	N/A	N/A	N/A
	Zoom	User can update/edit pronouns but the account administrator maintains control	HR and IT managers can link pronouns field to their people management systems	Pronouns appear prominently across UX next to employee name; limited audience controls (defaults to on or off)	Can customize through an open text box; option to set reminder prompts before entering meetings
	Google Meet	Pronoun sharing not available	N/A	N/A	N/A
Social media platforms	**LinkedIn**	Pronouns controlled by the user	Pronouns used by the company to infer gender for ad targeting	Pronouns appear prominently across UX next to name; visibility options are limited (degree connections or all of LinkedIn)	Can only choose one option from the drop-down list
	Instagram	Pronouns controlled by the user	Pronouns used by the company to infer gender for ad targeting	Appear only in profile in light gray; pronouns are visible either to everyone or to followers only	Can add up to four pronouns from a list, including different sets of pronouns (e.g., she/they)
	Facebook	Pronouns controlled by the user	Company policies state that they do not provide advertisers with pronoun data	Pronouns are always public, even if gender and other information is only visible to friends	Can only choose one option from the drop-down list
HR systems	**People Soft**	Pronouns controlled by HR administrators, who review and approve changes	Institution controls and stores pronoun information	Pronouns visible to all employees; HR administrators can customize who can see this information, but individual employees cannot	Can only choose one option from the drop-down list
	Workday	Institution controls and stores pronoun information	Institution stores pronoun data, which is used to denote gender	Pronouns visible to HR and administrators; option to make pronouns "public," but no customization options	Drop down menu and an open text box; allows employees to add different sets of pronouns (e.g., she/they)

[3] This table includes the pronoun sharing options provided formally by these platforms as of July 2022. In addition to the options listed here, users often hack ways of sharing, displaying, and customizing pronouns, such as by co-opting other existing profile fields (e.g., adding pronouns to their names) or including their pronouns as part of general profile information or status messages.

Goffman's framework thus focuses on how people use communicative acts to manage their impression and reputation in relation to pre-existing social biases and structures of marginalization such as racism, sexism, homophobia, transphobia, and ableism. Drawing on Goffman, existing CSCW literature highlights the importance of impression management in online dating [72], among members of high-context societies [61], and for seniors making decisions about whether or not to disclose chronic conditions [5]. In professional settings, impression formation, distinct from but often a result of impression management, is key to future working relationships, especially when colleagues meet for the first time online [37, 70]. Interviews with software developers show that participants used one another's Github profiles to judge not only professional competence but personality traits [51]. HCI scholars have also noted that impression formation may be more vulnerable to pre-existing biases around race and sexual orientation among distributed teams [37, 70]. However, the relationship between gender diverse expression and impression management at work remains unexplored in the CSCW literature.

Several social scientific disciplines, less commonly engaged by HCI research, offer empirical data that fleshes out the dynamism of gender categories and details how gender identity is shaped by power and historical forces, with people adjusting the ways they enact their gender as they move across various social contexts. Building on anthropologist Esther Newton's [57] foundational ethnographic research on gender expression among drag queens in the pre-Stonewall 1960s U.S., Judith Butler's [16] work on gender performativity demonstrates that gender is not a stable aspect of a person's identity that emerges consistently from a "naturally" sexed body, as many people assume. Instead, Butler shows how gender is "the repeated stylization of the body, a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance, of a natural sort of being" [16]. In other words, gender is made real through contextual social action; it is not a static or stable attribute that can be easily captured as a discrete data point.

Anthropologists studying gender expression across multiple ethnographic contexts have found that gender categories are not universal, with a heteronormative gender binary being only one system among many for categorizing gender [44, 68]; that race, ethnicity, socioeconomic class, and national origin influence the ways that people enact their gender identity [50, 69, 2]; and that language and embodied action serve as critical tools for people to use in enacting their gender identity and affiliating with gendered social categories [38, 29, 54]. Drawn together, these threads of anthropological insights suggest that gender expression can often look quite different in the context of the home, for example, than it does in the workplace or at school. People make contextual decisions about how to express their gender that are shaped by considerations of social proximity, power dynamics, and safety concerns (e.g., who is in the room, who might join later, or how quickly one can leave without being noticed). More importantly, visibility is political—the decision to share personal information online is embedded with expectations about what should or should not be shared [15]. Gender expression is therefore an always ongoing process of self-expression, social communication, and negotiation, especially within the context of an institution like a school or workplace [53]. Pronoun sharing exists within this landscape; individuals' choices, and how others perceive them, can vary based on context, audience, and position [42].

2.3 Trans and Nonbinary Communication Online

Context collapse on social media sites creates a disclosure problem for people who want to share their identities with some contacts but not others [10]. Previous literature has also established that queer and trans people make complex decisions about whether and how to disclose their identities online, given the threat of hostile audiences [32, 47]. Trans people often respond to this problem by

reasserting separate contexts [26] or by using multiple sites or profiles to present different identities [45, 48, 34]. Another strategy is "creatively co-opting" the cisnormative features of software systems to express gender diversity, as Freeman et al. [28] discuss in the context of an online gaming platform. However, there are limits to how people can reveal or hide their identities online given the underlying structure of various communication platforms. Many social media sites have limited options for expressing one's gender identity, particularly with workplace dynamics in mind. For example, Facebook requires that people select a gender identity to create an account. While the gender options and requirements have changed over time, the site maintains only two gender categories on the back end of the site, along with an 'undefined' third category for anyone who refuses to choose one of the two categories [7]. Additionally, Facebook's "real name policy" often acts to proscribe trans people's authentic self-expression on the site by denying people the ability to post under the name that they use in their daily lives [35]. Haimson et al. [33] further demonstrate that Facebook's custom gender options do not mitigate the stress of disclosure related to gender transition, arguing that the underlying technical infrastructure of how Facebook "operationalizes 'identity' as a set of static attributes with distinct values" represents a more fundamental challenge than the lack of customizable options for gender expression.

The data structures that define and limit people's gender presentation online can have significant material consequences. Hicks [36] shows how computerized data has historically been used to refuse the acknowledgment of trans people's identities. Data about individuals can also persist in ways that harm trans people. Mackenzie [49] discusses how trans people become illegible to credit reporting systems when they change their names, resulting in an inability to access their credit histories. Other researchers, including David [21], argue that movements for trans visibility and inclusion in the workplace do more to improve corporate profits than to create trans liberation. The complex interplay between data structures and real-world politics can render trans activism that focuses on visibility and legibility via personal disclosures and institutional categorization ultimately a reinforcer of assimilation [68].

Building on the CSCW literature on gender at work and impression management, anthropological and sociological insights on contextual gender expression, and HCI research on trans and nonbinary communication online, this paper investigates how trans and nonbinary employees navigate pronoun sharing at work. We situate our findings within the work of communication scholars to argue that workplace pronoun sharing functions as a complex communication process, rather than as a static moment of information retrieval.

3 METHODOLOGY

Our research took place over two three-month periods in spring 2020 and summer 2021. We conducted two rounds of qualitative semi-structured interviews in collaboration with a product team at a large software company.

3.1 Author Positionality

All four co-authors of this paper are queer; two of the authors are transgender and nonbinary and two are cisgender. The first author describes himself as an Iranian American of mixed Iranian and white American heritage, and the other authors describe themselves as white Americans. All authors are currently living and writing in the United States, and this research was conducted within a U.S.-based corporation. These perspectives informed the research design, data analysis, and writing throughout this project.

3.2 Recruitment and Participants

We recruited through several professional networks as well as relevant social media communities and advocacy organizations. Our recruitment efforts focused on finding participants from a wide range of backgrounds and work contexts so that we could assess the implications of sharing pronouns at work for people with different identities and who work in different places and industries. Rather than looking for a representative sample, we sought a range of experiences and concerns. We recruited in successive waves via several networks, with the goal of achieving conceptual saturation. As we proceeded through our recruitment waves, we used varying formal recruitment criteria that reflected our respective goals. Our initial recruitment took place in spring 2020 through an open call to an internal professional network for transgender employees, as well as an external professional network for product testers. Our goal with this initial recruitment was to get a broad initial base of participants, emphasizing but not limited to transgender and nonbinary people. For this wave, we interviewed transgender and cisgender people over the age of 18 who had experience sharing pronouns at work or school. Later in 2020, we recruited through professional and social networks of transgender and nonbinary people on social media sites such as Facebook. Our goal was to speak with transgender individuals with more varied backgrounds in terms of their work contexts. Our formal recruitment criteria were people at least 18 years old who identified as transgender or nonbinary (or any other gender that does not entirely correspond with their gender assigned at birth) and had experience with sharing pronouns or wanting to share pronouns in a workplace setting. In summer 2021, we again recruited through our professional and social networks, but we used more narrow recruitment criteria. We specifically sought to speak with individuals who had experience discussing pronouns in languages other than English, as well as HR and IT professionals who had experience as software adoption managers for their organizations.

We interviewed a total of 78 people who work in many different positions across a variety of industries, including telecommunications, manufacturing, technology, healthcare, education, public service, and community-based organizations. 49 of our participants lived in the US, 12 in Canada, 9 in Europe (including the UK, Germany, Poland, France, the Netherlands, and Denmark), 8 in the Middle East and North Africa (including Tunisia, Egypt, Morocco, and the UAE), 1 in Mexico, and 1 in Australia (several participants reported living in more than one location).

We also spoke to people reflecting a range of gender identities and sexual orientations, including 44 who identified at the time of the interview as trans or nonbinary, 18 who identified as LGBQ and cisgender, 14 who identified as straight and cisgender, and 2 who did not disclose their gender identities. Of our trans and nonbinary participants, 31 identified as nonbinary or otherwise outside of the gender binary[4], while 13 did not indicate an identity under the nonbinary umbrella. These numbers are approximate, as we operationalize gender according to the language our interview participants use rather than a pre-assigned category system.

All 50 of our first-round interviews were conducted in English and did not include questions about language proficiency. In the second round of interviews, we asked our 28 participants which languages they use in their daily lives. 26 of these interviews were conducted in English and 2 were conducted in Arabic. We spoke to 12 monolingual English speakers as well as 10 French speakers, 8 Arabic speakers, 7 Spanish speakers, 2 Portuguese speakers, 1 German speaker, and 1 Malayalam speaker. If a participant indicated they spoke a language other than English, we asked them about how they use pronouns in this language in comparison to their pronoun use in English.

[4] We did not ask participants who identified as nonbinary whether they also identified with the 'transgender' label.

Our participants' ages ranged from 20 to 56 years old. However, a majority were in their 20s or early 30s, with a median age of 29.5.

3.3 Semi-Structured Interviews

We conducted in-depth, open-ended semi-structured qualitative interviews with participants. We started with a list of interview questions, but we would also ask additional follow-up questions based on the responses from our participants. Our conversations with participants allowed us to understand their social contexts, as well as how their workplace environments relate to their experiences sharing pronouns. We also learned about how they use communication technologies (such as email and virtual meeting software) at work and how their technological tools fit in with their daily work practices. Interviews ranged in length from 30 to 120 minutes, with an average length of 60 minutes. We include our interview schedule in the appendix.

Our interview questions asked our participants about who they are, where they work, and what their work environment is like. We also asked about how they use pronouns, their experiences talking about pronouns at work, and how they choose whether to share their pronouns at work. Finally, we asked them what they're looking for in software for sharing pronouns and why they might or might not be interested in such a product. This helped us learn about people's experiences with navigating pronoun sharing in the workplace and the issues at stake when it comes to talking about pronouns at work. For our interviews in 2021, we asked additional questions about pronoun use in languages besides English, as well as questions about institutional considerations for implementing pronoun software in large organizations. More specifically, we asked participants about what kind of training was already in place at their organizations about gender and sexuality, how people are already using software to communicate their pronouns, and their familiarity with pronoun use in languages other than English.

As time allowed, we also invited participants to look at a mock design prompt that enabled them to experience choosing pronouns to display on their profile in a commonly used workplace collaboration software suite. This design prompt was developed by our research partners at a product team at a large software company. The design prompt provided a simple interface which allowed participants to choose one or more pronouns from a set of options and then see those pronouns displayed near their name on a sample user profile. We asked participants to share their screen as they clicked through the design prompt so we could observe how they used it, and we asked them for their responses and feedback. We then asked a series of questions about their opinions and feelings about the design prompt, and whether they would use a similar product if it was available to them at their work. This set of questions helped us elicit specific feedback about what participants want to see in workplace pronoun-sharing tools.

3.4 Interview Analysis

We rely on anthropological interpretation of the materials–reviewing field notes associated with the interviews, interview recordings, and interview transcripts–and, then, moving across materials to identify recurring themes and departures from those themes [13, 25]. Like grounded theory, as developed by Corbin and Strauss [24], anthropological approaches to qualitative research involve searching for empirical evidence of relationships among themes or categories identified in the research process and building theory from those constructed linkages [17, 19]. We began by collectively reviewing major themes from our interviews throughout the research process, sharing discussions or information from our participants that stood out to us during the interviews. At the end of the interview collection during each three-month research period, we closely coded several

interview transcripts, looking for major themes as well as differences in perspectives. We then loosely coded the remaining transcripts, looking for the major themes we had identified during close coding. Throughout the process, our analysis remained qualitative; rather than counting incidences of specific codes, we looked for meaningful patterns and illustrative examples among our transcripts.

3.5 Limitations

We used a convenience sample rather than looking for a representative sample, seeking a range of experiences and concerns in our interview recruitment. Because the research was conducted as part of an industry-based internship program, we were able to access a network of customers that beta-test products and services. While access to this program made recruitment of a diverse set of workers possible, it also created constraints on who could be included in the study, specifically excluding workers in settings that may not have IT departments or adoption managers working with large software systems.

We asked our participants open-ended questions about their identities; our demographic overviews reflect our own judgements as we collated their responses. Because our participants used their own language to describe their identities, and different participants use different schemata to understand various parts of their identities, we are not able to collate participants' demographics into clear, meaningful categories. Therefore, we cannot make claims to the representative distribution of our participants when it comes to race or ethnicity, class, sexual orientation, or disability. We note particularly that we are unable to usefully collate or categorize our participants according to their racial or ethnic identities, as the terms and contexts for these identities vary significantly by region. However, we acknowledge that a majority of our participants (approximately 60%) are white, which is itself a limitation to the representativeness of our sample.

Additionally, while we interviewed people who spoke a variety of languages, we cannot make claims about pronoun use in all languages and cultural contexts around the world. In particular, we are lacking representation of languages that do not index gender through pronouns. We also do not have many participants from Central and South America, Asia, or Sub-Saharan Africa. Most participants live and work in North America, Europe, and the Middle East and North Africa.

Finally, most of our participants work primarily in office settings where they frequently use computers to communicate with their colleagues. We spoke to fewer people in educational settings, especially those in K-12 schools. We also didn't speak to very many people who work in contexts such as factories or restaurants where employees use computers less frequently to communicate at work. Therefore, our findings related to software tools for sharing pronouns are mostly limited to white-collar workplace contexts.

4 RESULTS

4.1 Sharing pronouns is a complex communication practice. Trans and nonbinary people, in particular, make complex calculations that are driven by social context when deciding whether and how to share pronouns.

Since being gendered correctly is a matter of safety and security to many trans and nonbinary people, the social process of sharing pronouns is also important. Cisgender people often imagine this process as providing a simple piece of information. For example, one common practice is for people to state their pronouns along with their names at the beginning of meetings when not everybody knows each other. This reflects and promotes the idea that pronouns are just like names.

However, among transgender and nonbinary people, the process of sharing pronouns is significantly more complex. Our participants describe having extended conversations about pronouns. When sharing pronouns, they might also discuss who else knows these pronouns and when (or in front of whom) someone should use alternate pronouns. If someone uses more than one pronoun, they might ask whether they should use one as a primary pronoun or use both interchangeably. Ezra[5] (he/they), a queer cisgender man who works at an LGBTQ community organization in Canada, explains that people in his organization share their pronouns in every meeting, even if they all know each other, because they recognize people's pronouns can change from day to day. Additionally, Ezra has conversations with all his colleagues about what to do if they are misgendered in a meeting.

> *"Almost every single person in the team gets misgendered pretty regularly because we deal with so many corporates that maybe aren't used to that practice, and they might not be used to some of the pronouns that some people use. So we have an established procedure for if somebody gets misgendered. If we're in a meeting together, I know who needs me to step in and correct the client versus who needs to correct the client themselves in order to feel safe in the meeting or feel in control. The same way that I remember everybody's name and pronouns, I remember everybody's protocol for if they get misgendered."*

The practices that Ezra describes above reflect his understanding that sharing pronouns requires ongoing interpersonal communication that involves more than merely disclosing personal information. Additionally, transgender and nonbinary people make complex calculations when deciding whether and how to share their pronouns, particularly in professional settings. One of the biggest factors in our participants' decisions about sharing their pronouns is their perception of how friendly or hostile their work environment is to trans people. Paul (he/they) is nonbinary and works as a professor and administrator at a large public university in the U.S. Midwest. When we asked him about how he would expect to use a tool for sharing pronouns in university-wide cloud-based email and collaboration software, he described discomfort at the prospect of making his pronouns visible to all audiences at his university.

> *"Say an individual works in two different departments and one department is extremely inclusive and accepting; and the other department, they either don't know or maybe there's things that have been said. You know, maybe people have, like, verbally protested pronouns or maybe said derogatory things towards they/them/their pronouns. And so they're worried about, you know, using their pronouns in their inclusive department and hiding their pronouns in another department."*

Paul describes a situation that many of our participants referenced, where they are often collaborating with different teams and units within an organization that promote a wide range of attitudes toward trans and nonbinary identities. Indicating that a person uses they/them pronouns, for example, can provoke unwanted negative attention from colleagues who are not familiar with or who are actively hostile to trans and nonbinary identities. Workplaces are not uniform in their level of acceptance toward trans inclusion, and it can be potentially unsafe or career damaging for trans people to share their pronouns with certain coworkers and clients or in certain professional contexts.

[5] All participants' names in this paper are pseudonyms. Participants were given the option to choose their own pseudonym, and some chose to use their own name.

Even in situations where they haven't experienced open hostility, trans participants actively look for signs that a group might be friendly or hostile to them in deciding to share pronouns. One such sign that several participants pay particular attention to is whether others in the setting are sharing their pronouns. Our participants express significant reluctance to share their pronouns if they are the only ones doing so, whether in an online or offline setting. Ariel (they/them), a nonbinary and agender person who works for a federal government agency in the United States, explains their decision-making process when it comes to sharing their pronouns during meetings.

> *"If I'm in a meeting or I'm on a panel, and the eight other people speaking didn't mention their pronouns and then I'm put in a position where I have to conspicuously mention my pronouns, that often feels very awkward, and there have definitely been cases where I've decided it's just not worth it; I'll deal with whatever happens and say nothing, which is less than ideal but does happen. In contrast, if there are groups where other people are mentioning their pronouns, then it's like, yeah, sure, I'll mention mine, too. It's no big deal. It's been normalized."*

Ariel speaks to an acute awareness of who around them is sharing pronouns and of the social consequences of being the only person in the room to do so. They, along with several others, worry that doing so will call undue attention to their gender identity or presentation, possibly outing them as trans. This process serves as a form of impression management [31, 72, 61, 5] through which employees must make calculated adjustments to their outward presentation, based on social context. Part of this management includes assessing the risk of discrimination and making decisions about disclosures accordingly [31]; as Benjamin and colleagues [5] note, the perceived supportiveness of the environment is crucial to this process.

Additionally, sharing pronouns with people who are unfamiliar with the idea can result in the need to have several conversations and educate others about pronouns and gender identity more broadly. Even where trans people are not worried about outright discrimination, they often find that calling attention to themselves in this way leads to colleagues asking invasive questions, making awkward comments, or in other ways derailing their workday. Johana (they/she), a nonbinary and agender person who works for a large software company in the United States, is particularly adamant about this.

> *"If I don't see cis people doing it then maybe I shouldn't either. If there is not a cultural conversation about gender happening, I'm not interested in forcing it and it seems to me that if I am the first person to use it in my specific team, cis people will implicitly see it as an obligation to have a conversation. I'd rather not be the first queer person they talk to."*

Johana does not want to take on the responsibility for educating their colleagues about pronouns and gender. Like Ariel, they also take other people's behavior in sharing (or not sharing) their pronouns as an indicator of whether their work environment is a safe place to be out as trans or to discuss their gender.

Another factor that some of our participants consider is their linguistic context. Personal pronouns are a primary way that English speakers signal gender through language, but this is not the case for many other widely spoken languages. Many multilingual people, such as Meghan (she/her), a cis woman who works at a small nonprofit organization in Canada, find that they must make different decisions in communicating their gender expression as they move across linguistic boundaries.

> *"In French there's other grammatical things, like 'les accords' – the accords. Sometimes people will get really precise in their French and say, 'I use this pronoun, and then I use masculine accords, or I*

use feminine accords.' In English you just say your pronouns, no one in a meeting says 'and use feminine words to describe me.'"

Speakers of multiple languages navigate different affordances for gender expression as they move between linguistic environments. Meghan describes how, when using English, she feels that sharing her pronouns is sufficient to facilitate gender-affirming communication with her colleagues. When using French, however — a language that relies on a much more comprehensive system of gendered grammatical distinctions than English — she sometimes feels compelled to share more guidance on how she wants others to refer to her. She describes a French-language meeting in which people shared their pronouns (e.g., *il* 'he', *elle* 'she', *iel* 'they') as well as their preferences for which *accords* they use, referring to French grammatical rules that require gendered agreement between verbs, adjectives, and pronouns (e.g., 'I'm going with them' for nonbinary *iel* pronoun users could be '*Je vais avec ellui'* or *'Je vais avec soi'*). This is especially important for users of French neopronouns such as *iel* and *ellui*, since many French speakers are not familiar enough with nonbinary pronouns to know how to use them in a sentence without specific linguistic guidance. Because a person's gender affects the form of the verb, adjective, and other grammatical structures in a French sentence, communicating in a gender-neutral style in French is not as simple as replacing a gendered pronoun for a gender neutral one, as in English. The complex and emergent nature of these linguistic decisions is further evidence for why it is not accurate to imagine pronoun sharing as simple information provision. People navigating multilingual contexts, like Meghan, express themselves dynamically according to the distinct norms and affordances of each language they use at work.

4.2 Sharing pronouns at work is complicated by power dynamics.

The specific context of the workplace introduces additional pressures and considerations for trans people who want to share their pronouns. For trans and nonbinary people, the decision to share their pronouns at work is complicated by concerns about harassment and discrimination. Interpersonal power dynamics and professional hierarchies shape how these workers choose to express their gender identity on the job. Our participants shared various situations in which they might hesitate to share their pronouns at work, even if they otherwise consider themselves to be out about their gender identity. These situations include when they are participating in large group discussions, when the person is a low-ranked or temporary employee, when they know some of their coworkers are openly hostile toward LGBTQ people, or when they are consistently the only person in their office to disclose pronouns. In all these situations, our participants said that they might not share their pronouns if they were unsure of how their supervisors, coworkers, or clients would react. Zain (he/she/they), a genderqueer university student and LGBTQ activist from Tunisia, describes why they are more careful about sharing pronouns in workplace settings than they are on social media platforms.

"And it depends on the platform, too, because I could do it [share pronouns] on Instagram, because that's a place where I'm more nonconforming, and I'm more free, as opposed to my university email, I couldn't do it. Facebook, I wouldn't do it, because it's all old friends and old classmates and things like that. So it really depends on the platform. And the people-- it depends on who I have on the platform, or who I interact with on that platform."

At their university, Zain does not feel comfortable sharing the full range of their pronouns. At a different point in our interview, Zain explained how their professors and other students have previously expressed hostility toward LGBTQ identities and how there are no official university policies to protect Zain in publicly expressing a gender non-conforming identity at school. It would

therefore be risky to share their pronouns in their official university email. On Facebook, where Zain is connected mostly to friends and former classmates from secondary school, they do not use gender nonbinary pronouns because they do not feel comfortable coming out as queer to these audiences. However, on Instagram, Zain feels more free to express themself as a genderqueer person and they use Instagram's pronoun sharing tools, seeing this platform as a means of personal expression rather than professional communication. Zain's story illustrates one example of how expressing a nonconforming gender identity in professional contexts such as work or school often involves greater social stakes than sharing pronouns on social media platforms.

Even when they believe their coworkers to be generally friendly toward transgender and nonbinary people, our participants worry that sharing their pronouns could be seen as distracting or off topic. While any of these issues can be present in other contexts outside work, they are exacerbated by the hierarchies in the workplace and the potential long-term consequences to people's careers and livelihoods if they encounter transphobic supervisors or coworkers. For example, Laurie (they/them), a nonbinary medical student in the U.S., explains how cisnormative expectations of gender expression in the medical field inform their decision not to share pronouns at work.

> *"I'm in the lowest power position possible and that makes it very difficult to share pronouns because, in medical school, you get subjective evaluations that then determine your ability to go to the residency that you want. If you're being subjectively evaluated by someone who's transphobic or homophobic and they read you the wrong way, they can just say that you look unprofessional. So this is why I didn't come out at work until I knew I was going into psychiatry, because I really thought that I legitimately might not be able to get residency because of who I am."*

Institutional structures of advancement, compensation, and evaluation often depend on subjective assessments of a person's professional appearance, which tend to reinforce cisnormative expectations of gender expression. Laurie's comments highlight the risks of coming out as nonbinary at work before they had attained adequate job security. Laurie uses a strategy of non-disclosure of their pronouns to ensure their professional advancement. In the competitive field of medicine, they are careful not to provide their supervisors and evaluators with any reason not to promote them or support their advancement to residency. Laurie worries that their pronouns could have been used to characterize them as "unprofessional" in the context of institutionalized homophobia and transphobia in medicine.

Workplace hierarchies can also impact professional communication in more subtle ways. SG (they/them), who is nonbinary and agender and works at a large software company in the United States, describes how their decisions to share pronouns were affected by their seniority and job security.

> *"When I was a contractor, I didn't really feel comfortable sharing my pronouns. I wasn't sure how much I wanted to risk that. When I was a contractor, you know, I had a fixed time limit. I also wasn't sure how much I wanted to go through the discomfort of explaining to people what my gender and my pronouns were. And I also wasn't sure [whether people would be tolerant], because I didn't know anyone else who used they/them pronouns. It was only when I got converted to full-time that I started to speak up about it."*

Although nobody outright told SG that they needed to present themselves in a cisnormative way or explicitly threatened their job, SG was very aware of their status as a contractor early on in their job. Their contract was initially short-term but had the potential to be converted into a full-time permanent position. They didn't want to rock the boat or jeopardize their promotion by coming out

before they had a permanent position. Like Laurie, SG used a deliberate strategy of non-disclosure out of concern for providing compromising personal information to their supervisors in the context of precarious employment.

4.3 Technology for sharing pronouns can facilitate as well as complicate the social process of gendered self-expression, especially at work.

Many of our participants are hopeful that software tools for sharing pronouns can provide meaningful benefits for trans and nonbinary people in the workplace. They express excitement at the prospect that these tools could, for example, provide consistent reminders of a person's pronouns, enable people to address others respectfully in virtual and in-person meetings, and help share their correct pronouns with large or dispersed groups of people. Andy (they/them), a nonbinary employee at a university and healthcare clinic in the United States, describes why they would have liked a virtual tool to introduce themself and their pronouns when starting a new job.

> *"[My boss] sent out an introduction email and they just sent it as 'Andrew' and so everyone replied to it and was like, 'I'm so happy I get to work with him.' And so I think if it was a part of the process where I get to decide what I'm sharing with everybody and if that's sent out to everyone. Because it sets the tone. And I think when cis people meet trans people, what they see the first time shapes how they act for the rest of the relationship."*

Andy thinks that if a virtual tool for employees to control how they share their own pronouns were a part of the standard process for introducing oneself and communicating at work, it would have been easier for their colleagues to use their correct pronouns.

In addition, trans and nonbinary workers imagine that software can help simplify the process of coming out and sharing pronouns with their colleagues. Many of our participants see the benefits of how the social process of gender expression can be streamlined and standardized by building space to display pronouns in their workplace profile. Rain (she/her or they/them), a nonbinary demigirl who works for a large software company in the United States, thought that it would be very helpful to have her pronouns appear in all of her digital profiles, but she wanted to make sure that users would be told where their data would go.

> *"I would like my pronouns to just appear everywhere that my profile appears. So, just a single place to change it would be great. I would want it to be made clear that changing it here is going to change it everywhere else – so like your Office profile, your HR profile, Visual Studio, your code reviews, all this stuff is going to start reflecting this change."*

In a cloud-based system with multiple apps or experiences accessible via a single user profile, Rain expects that she would be able to make her pronouns visible across these various apps and experiences. However, she stresses the importance of being made aware of and given control over how her pronouns would be displayed before her profile begins surfacing her updated pronouns across apps and experiences. Rain's comments highlight a concern that trans and nonbinary workers may not want to use the same pronouns in each place their profile may appear, and that it may not be safe for pronoun-sharing software to automatically update a user's pronouns in all profile surfaces without first informing them.

While our participants are generally optimistic about the benefits that pronoun-sharing software can bring for trans and nonbinary workers, they worry that pronouns data could be used for other purposes, such as targeting advertisements to them based on stereotypes and their assumed gender. Most of our participants feel very strongly that their pronouns should not be used to make assumptions about them or to reinforce gender stereotypes. Aury (they/them), a nonbinary trans

woman who works for a large software company in the United States, feels that they should be able to self-identify their pronouns at work because they want to be gendered correctly, and they want their workplace to take the matter seriously.

> *"The most awful tool that I can imagine actually getting built would be something that infers pronouns, and then discloses them without proper control over that."*

For Aury, sharing pronouns is a matter of autonomy and self-expression, and any product that used machine learning or any other technology to try to guess their pronouns or share their pronouns with others without their consent would run counter to those goals. Aury envisions ideal pronoun-sharing software as a communicative tool that places people in control over their own gender expression. They are highly critical of software that makes assumptions about one's gender and pronouns, or that allows other people to control how an individual displays and shares their pronouns.

Other participants highlight the risk that pronouns software can magnify existing confidentiality concerns about sharing pronouns in professional contexts. Luke (he/him), a cisgender educational consultant at a K-12 school in Canada, discusses an example of how a trans student at his school would need to navigate sharing pronouns with different audiences using classroom software.

> *"I can think of in the past when we've had a student that was in transition, that was comfortable sharing their preferred pronouns perhaps with us as educators, but hadn't come out to parents, or to family members. So that might be a situation where the pronouns that are shared in a report card, or in a family communication, might be different than the pronouns that are shared in an in-person interaction."*

For Luke, as a school administrator and teacher, it is critically important for school employees and educational technologies to use the correct set of pronouns to refer to this student to respect their identity and preserve their safety. It should be clear to all school employees when a student uses one set of pronouns in class and a different set of pronouns with family. Confidentiality of this student's pronouns data is of the utmost importance for the school and for the student's safety, as there is a risk that sharing the incorrect set of pronouns with the student's family could result in the unwanted exposure of their gender identity to their family and consequently place them at risk of harm.

Participants working in HR and IT roles consistently highlight the need for comprehensive and context-sensitive education around gender expression and pronoun use in order to successfully facilitate the launch of pronoun sharing tools within their institutional software systems. We encountered a wide range of pre-existing knowledge and training programs about gender diversity and pronoun use across institutions of various sizes, industries, and geographic locations. Malin (she/her), a cisgender woman and software trainer at a large U.S.-based multinational manufacturing corporation, explains how current training about pronoun use and gender diversity in her workplace is currently limited to a self-selecting group of LGBTQ employees and allies.

> *"Education really is centered around our LGBTQ employee resource group. They're individuals who identify as part of the LGBTQ community and have taken it upon themselves to champion the cause. So, the education is coming from that group, but if you're not aligned with the group, you're choosing not to participate, I don't know that there's anything that is required… It would be very helpful if there was a resource that we could point people towards and say 'Okay, now, if you're curious how you should use this in your region or if you're curious what your options are if you have your Teams*

set in Vietnamese, here's what you have,' and even if it was just a table of 'Here are all of the pronouns that are available. You can pick from this list or here are some suggestions that we have for you,' that would be fantastic because otherwise, I wouldn't really know what to answer if somebody was asking. I don't know any Vietnamese."

Malin describes a scenario in which she, as a corporate software trainer, would act as a primary contact point for employees at her institution seeking guidance about pronoun sharing software. Alongside the release of pronoun sharing tools themselves, Malin suggests that product developers create and share a set of easily accessible educational resources about gender expression in workplace software in order to alleviate current gaps in her knowledge and promote more widespread awareness of the importance of pronoun sharing beyond the LGBTQ community.

Some of our participants are concerned about the long-term persistence of pronouns data in workplace software. Unlike in-person communications, in which people generally do not expect their speech to be documented and stored, virtual communications persist over time in the form of data. Software users generally do not know or have control over how this data is stored, or for how long. Data persistence can become a problem in pronoun-sharing software [67], especially for trans and nonbinary people navigating processes of transitioning and coming out. Senna (they/them), a trans nonbinary person who works at a large software company in the United States, notes that while they feel safe sharing their pronouns with their current team, they don't know if they will have the same team or supervisor long-term.

"I don't know who my future managers are going to be, and whether I would regret it. I don't want that on record for them to see. So I wouldn't want my pronouns in a place, digitally, that is persistent. I don't necessarily get to choose my manager, there's reorgs. I might get moved somewhere. So I might end up with someone who's not accepting, and is going to discriminate against me."

Because Senna feels that they cannot predict whether their future supervisor or colleagues will be accepting of trans people, they imagine an ideal system for sharing pronouns that would allow them to control how long their pronouns data would persist in their profile. Their pronouns data would only be stored for a specified amount of time, perhaps, for example, only for the duration of a project, through the end of the current year, or for the length of their current employment contract.

Finally, pronoun sharing tools can become a source of stigmatization for speakers of English as an additional language. Pronouns software can inadvertently reinforce linguistic hierarchies and exclusionary communicative practices if it only includes English-language pronoun options. Ariana (she/her), a cisgender employee at a U.S. corporation who is originally from Portugal, explains how a lack of widely used and easily understood options for nonbinary communication in Portuguese results in English being used as the default means of speaking about her nonbinary colleagues.

"In Portugal, we don't have nonbinary pronouns. In the Portuguese language, even tables have a gender. It's a big barrier in language, whilst here I feel like it's really, really easy to just use 'them' or, yeah, to just use nonbinary terms and continue to have the same conversation, you just change one pronoun and that's it. I've met someone that identified as nonbinary in Portugal and it was always a big, big struggle to talk about the person."

When multilingual people like Ariana feel they lack a robust set of options for diverse gender expression in languages other than English, they may default to using English to include their nonbinary colleagues. This well-intentioned move can have the unintended effect of privileging English over other languages as the only truly gender-neutral language that is appropriate for respectful workplace communication, contributing to linguistic discrimination in global workplaces

and discouraging collaboration with speakers of other languages. English-only pronoun sharing software reifies the harmful idea that diverse gender expression is an exclusively U.S. or Anglocentric concern, ignoring the work of trans and non-binary activists around the world who are building linguistic tools for gender inclusivity [3, 4, 6].

4.4 Summary

We find that trans and nonbinary people express specific needs for workplace pronoun sharing software. First and foremost, trans and nonbinary people need their coworkers to recognize and correctly use their pronouns as a matter of respectful professional communication. Second, our trans and nonbinary participants need to safeguard their professional reputation and preserve the confidentiality of their personal information due to concerns about widespread transphobic discrimination and bias in the workplace [56]. Third, trans and nonbinary workers express a clear need to have control over how their pronouns are displayed and made visible to others as they move across various communicative contexts at work in order to successfully navigate complex professional hierarchies and manage others' impressions.

Our results indicate that existing pronouns software does not meet trans people's needs in a workplace context because current design standards for pronoun sharing, such as the options in Zoom, PeopleSoft, or Teams, do not allow users to maintain enough control over data storage and visibility. Furthermore, the software systems we highlighted at the start of the paper (see Table 1) do not allow for a level of customization that meets the needs highlighted by participants. We argue that these systems use an information-provision paradigm rather than an approach that centers the social communication of gender. As people communicate with different audiences at work–some familiar, like a coworker, others unknown, like a potential customer–workers need to make different decisions about how, when, and with whom they share pronouns. For many trans and nonbinary people, the decision to share their pronouns in the workplace or at school constitutes a moment of coming out and rendering themselves legible as gender non-conforming within a sociotechnical system[6] that they do not fully control and that, to date, has not been designed with their specific social needs in mind.

5 DISCUSSION

Pronoun sharing tools (see Table 1) built on an assumption that gender is a straightforward matter of information provision fail to adequately account for the needs of trans and nonbinary people because they do not provide for the contextual and social aspects of pronoun sharing in the workplace. When prompted simply to input pronouns in a software profile, trans and nonbinary people are faced with myriad complex concerns and anxiety about professional security, discrimination and bias, and interpersonal relationships. And, as Spiel [67] demonstrates, changing these pronouns is often difficult precisely because gender is viewed as an immutable data point. Given the importance of impression management and impression formation at work [37, 51, 70] making changes easily and at will is essential. Trans and nonbinary workers are unlikely to use a pronouns feature that lacks adequate audience and visibility controls, since they are highly conscious of the reality that they may face bias and discrimination if their identities are made known to unsympathetic audiences who can influence their career and professional future [56]. Pronoun use is also context-driven, with people often using different sets of pronouns as they navigate different workplace cultures, express their gender identity in different ways over time, and

[6] For a useful definition of sociotechnical systems, see Sawyer and Jarrahi [60].

communicate with different professional audiences. In sum, current pronoun sharing software does not allow for the complex decision-making practices and contextual communicative acts that trans people must engage in when they share pronouns in the workplace.

Software developers and adoption managers should implement pronoun-sharing tools in a conscious way, including robust and appropriate supplemental education about language, gender, and sexuality to ensure the safe and effective adoption of this software. While digital tools can help facilitate pronoun disclosure, introducing such tools will not automatically make the workplace a safe space for queer, trans, and nonbinary people. Rather, software can create some affordances that provide new options for how people share their pronouns, and some complications when it comes to things like privacy and data management. However, even these new affordances and concerns occur in the context of the existing workplace environment. Given that technologies should never assume or predict the gender identities or safety needs of individuals from one context to another, software developers will need to create systems that empower people to control how, where, and when they express their identities. We hope developers can use these findings to build safer and more inclusive pronoun-sharing tools for workplace software.

Whether sharing their pronouns digitally or in person, trans people consider first and foremost their safety when deciding whether to disclose. Several of our participants identify that it is first necessary to use education and other social measures to create a safe workplace environment in order to successfully deploy pronouns software. Some types of institutions present specific additional challenges to implementing pronouns software. For example, in large companies or organizations, most employees do not know all other employees personally. Several of our participants report that they are comfortable sharing their pronouns with their immediate colleagues, but don't necessarily want to broadcast them to everyone in their organization. In these circumstances, robust and granular privacy options are necessary to ensure that individuals can share their pronouns with only their team or department, or even to choose specific individuals who can or can't see their pronouns. This is a significant sociotechnical challenge because many organizations do not code information about individuals' locations and departments into their profiles. In these circumstances, there may not be a clear way to provide sufficient audience controls without a significant reorganization of company HR or email profiles.

Furthermore, many organizations lack the internal resources to conduct appropriate education about pronouns and gender expression. We found that the people who would manage the adoption of such software, such as HR and IT professionals, are often themselves uneducated about these issues, or only have informal knowledge. Since adoption managers frequently lack the knowledge or resources to provide education about pronouns in their workplaces, it is necessary to provide educational materials along with any pronouns software.

6 CONCLUSION

We argue that existing approaches to building pronoun sharing software do not align with the needs of trans and nonbinary people, as identified in this study. Current design standards for virtual pronoun-sharing tools rely on an information-provision approach that encodes pronouns as static pieces of information that can be used to pinpoint a user's gender identity. Gender expression is encoded in software as a simplistic matter of category assignment [9, 67, 65, 43] rather than reflecting the reality that gender is a multifaceted realm of self-expression and social communication [16, 31, 42]. As we have seen in our results, workplace pronoun sharing practices are decidedly more dynamic and contextual than this information-provision approach allows. Rethinking pronoun sharing practices as strategic social acts of communication that workers perform in order to achieve

specific professional goals is a more productive approach to designing safe and effective pronoun sharing software for trans and nonbinary people. In the workplace, pronoun sharing decisions are as much about the context in which a person works and how they communicate with their coworkers as they are about who that person is and the gender with which they identify.

7 DESIGN IMPLICATIONS

7.1 Pronoun software must offer a complete suite of features to facilitate both temporary and stable pronoun sharing to be effective.

Pronoun sharing software must empower people to make ongoing, informed decisions about how they share their pronouns with different audiences. Pronoun sharing software should be designed as a means of facilitating ongoing social processes of collaboration, gender expression, and education around diverse identities in the workplace. It should not attempt to replace these dynamic processes with a simple technical solution offering only a binary choice of adding one set of pronouns to a user profile or leaving the pronoun field blank. provide sufficient audience controls without a significant reorganization of company HR or email profiles.

Inclusive and effective pronoun software must offer a complete suite of features that will enable people to make different decisions about their pronoun sharing settings according to communicative context. Our trans and nonbinary participants, especially those navigating coming out and gender transition at work, consistently highlight a need to share a different set of pronouns with trusted contacts than the pronouns they would feel safe adding to their general workplace profile. Developing a technical solution to share pronouns temporarily within a specific social context, as in a video meeting or a chat, alongside options to save multiple sets of pronouns to a user profile would satisfy the needs of a range of our participants at various stages in their gender expression. Temporary context-specific pronoun sharing, without saving or storing to a user profile, offers people in early stages of coming out and gender transition a way to facilitate respectful communication with trusted contacts without outing themselves to unwanted audiences. Stable pronoun sharing in user profiles offers people a way to give a persistent reminder for their contacts about the pronouns they use, thus alleviating some of the mental and social burden of being misgendered at work.

7.2 Pronoun sharing must always be optional, never required. Policies to encourage pronoun sharing must be accompanied by institution-specific educational guidance about gender diversity.

The decision to share one's pronouns in the workplace or at school must be a personal choice. Many trans and nonbinary people report feeling uncomfortable or unsafe if they are forced or pressured to disclose their pronouns in professional environments. Organizations and adoption managers should not require users to display their pronouns in workplace collaboration software, since this can put unnecessary pressure on those who are most vulnerable to transphobia in the workplace. Pronoun-sharing tools should, however, be promoted in the workplace as an optional tool for all people, both cisgender and transgender, to facilitate respectful communication and gendered self-expression. Adoption managers can and should encourage people to use pronoun-sharing tools if they feel safe and comfortable doing so, making sure that users understand they can control privacy and audience visibility settings and they can update their pronouns at any time. It is critically important for the safety of trans and nonbinary people that pronoun-sharing tools are not framed as an exclusively LGBTQ feature. Cisgender people should be encouraged to share their pronouns, and education about pronoun-sharing tools should highlight that this feature can also benefit

cisgender users by ensuring they are correctly gendered by their colleagues in a global workplace (e.g., showing an example of the name Andrea, which is a typically masculine name in Italy but typically feminine in the United States).

Supplemental education around pronouns, gender, sexuality, and language differences is critical for the successful adoption of pronoun-sharing software in global workplaces. For example, in educational settings such as K-12 schools and universities, pronoun-sharing tools may require additional privacy and visibility settings to account for regulations around sharing personal student data with parents and other audiences. Large multinational corporations may have well-established LGBTQ employee resource groups that provide ongoing education about issues of sexuality and gender diversity whereas smaller organizations simply may not have these support networks. Organizations with a presence in regions where LGBTQ expression is criminalized will require supplemental education and highly secure privacy controls to ensure safe access to this software.

7.3 Product success metrics should be developed to measure the extent to which pronoun sharing tools support informed self-expression and user safety rather than measuring adoption rate.

Product success for pronoun sharing tools cannot be measured simply by adoption rate. This would place undue pressure on adoption managers and users to encourage use of this feature when people may not feel safe, comfortable, or well-informed enough to do so. Instead, the success of pronoun sharing software should be measured by the extent to which it helps facilitate respectful workplace communication, informed self-expression, and the safety of trans and nonbinary people at work. The specific metrics for measuring these variables will vary according to each organization. Most importantly, however, the success of what we consider a sociotechnical system will depend on approaching the development of technologies, from ideation to a system's evolution, from the vantage point of those often least visible but most in need of a technical system accounting for their needs as core to the build. An ideal system is therefore not one in which all users are sharing pronouns and using pronoun sharing tools, but rather one in which all people feel empowered to make informed decisions about how, when, and with whom they share pronouns across communicative contexts in the workplace.

ACKNOWLEDGMENTS

We would like to thank all our interview participants for sharing their personal experiences of workplace pronoun sharing. We would also like to thank the conference's Program Committee and anonymous reviewers for their constructive feedback on this manuscript. We are indebted to our collaborators and colleagues at Microsoft, including Margrete Sævereid, Bernhard Kohlmeier, Sonia Perunneparampil, Defne Ayanoğlu, Nakul Madaan, Matt Vestengen-Cox, Pete Card, and other members of the FAST, JEM, E+D, Teams, and Compass teams for their support throughout the research process. We also thank our colleagues at the Social Media Collective at Microsoft Research New England for their insightful comments on earlier versions of our findings, including Nancy Baym, Tarleton Gillespie, danah boyd, Tawanna Dillahunt, Charlton McIlwain, Karina Rider, Rachel Bergmann, Collin Knopp-Schwyn, and Niall Docherty. Finally, we wish to acknowledge the helpful feedback we have received on this research from the GLEAM and GET communities at Microsoft.

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APPENDIX[7]

Interview Schedule

Introduction

The following questions will be asked of all interview participants:

Consent to Participate

[Interviewer introduces themself and explains the project and their connection with it]

I have [given/sent] you a participation consent form. I'll give you a minute to look over it – let me know when you are finished.

[When they are finished]: Do you have any questions about the consent form or about this research?

Would you prefer to sign the consent form or just give verbal consent? Although we are always careful to protect your data, if you are worried about confidentiality, verbal consent can provide an extra layer of protection.

[If they want to use the form]: Great, then can you sign and print your name at the end of the consent form?

[If they want to use verbal consent]: Great. Do you consent to participate in this research?

If you are mentioned in presentations or publications that result from this study, is there a particular pseudonym you would like us to use to refer to you?

Before we begin, I would like to remind you that your participation is completely voluntary, and if there are any questions that you don't feel comfortable answering, we can skip those questions. You can also answer any questions as specifically or as vaguely as you feel comfortable.

Background Questions

[For employees of corporations or schools]:

Where do you work?

How long have you worked there?

What kind of work do you do there?

Are you connected to any LGBT-related employee resource groups at your workplace? If not, do you know whether any such resource groups exist at your company?

[7] This interview schedule does not include questions related to a proprietary design prompt that cannot be published in this paper.

[For members of community organizations]:

How did you get involved with this organization?

Can you tell us about your role in this organization?

What kind of work do you do here?

Can you say a little about yourself and why you're interested in talking with me about pronouns?

Where do you live?

How old are you?

What languages do you speak in your everyday life? What languages do you usually speak at work?

Can you describe your educational background?

What is your racial or ethnic identity?

What is your gender identity?

What personal pronouns do you use?

Do you identify as a member of the LGBTQ+ community?

[If unclear from previous question:] Do you identify as trans, nonbinary, and/or gender-nonconforming?

[If they identify as trans or nonbinary, go to the Group A module 1. If they identify as cis, go to the Group B module 1. If they don't identify with the language of trans or nonbinary but fit somewhere under the trans umbrella, proceed to Group A module 1 but take extra care when asking questions to reflect back their own language for describing themself.]

Module 1 Group A

[All participants will be invited to complete Module 1. Group A includes all trans and nonbinary participants]

Company Policies and Practices

Who do you spend most of your time communicating with at work?

What are the forms of day-to-day communication that you use the most?

Are you (or is someone you know) out as transgender or nonbinary in your workplace? If so, how would you characterize the responses of your peers and supervisors?

What are your company's policies on transgender issues? Do you know of any policies in your workplace that might support you or work against you if you wanted to disclose your pronouns or gender identity? In your experience, what is the general atmosphere around LGBT issues in your workplace?

Pronoun Usage

Do you use the same pronouns at work as you use in your personal life? (If they're different, why? Which pronouns do you use in each context?)

Are there times that you "switch" pronouns (use different pronouns than the ones you prefer using), especially at work? Can you tell us a bit more about times when you do this?

About how often do people know and use your correct pronouns without you needing to tell them?

How do you let people know the pronouns you want used in addressing you? Do you have different things you do at work and in your personal life? (If they're different, why?)

How do you learn about other people's pronouns? Do you do different things at work than you do in your personal life to learn other people's pronouns? If so, what are they? [if they are different] Why are they different?

Correcting Pronouns

What factors do you consider when deciding whether or not to tell other people your pronouns?

In what circumstances do you choose to not tell people your pronouns?

Are there certain people at work with whom you choose to share your pronouns and certain people who you choose to not tell? If yes, how do you decide who to tell?

Do you make different decisions about sharing your pronouns in group settings versus one-on-one interactions? Why?

Are there times at work when you've felt someone didn't know how to address you? What did you do in those settings to deal with the situation?

Are there times at work when you didn't feel that you knew how to address someone else? What did you do in those settings to deal with the situation?

Have you ever received comments or feedback (either negative or positive) from your coworkers or supervisors about how you communicate your pronouns?

How do you think your position in your company affects your decisions on this issue?

How do your other identities affect your decisions and experiences with pronoun disclosure?

How do you feel in general about the idea of people sharing their personal pronouns in the workplace?

Have your feelings about this issue changed over time? Why or why not?

Hacking Pronoun Disclosure

Can you recall a time when it would have been helpful to have a tool for sharing your pronouns in your workplace?

Can you recall a situation in which you definitely would not want to use a tool to share your pronouns in your workplace?

Are there any tools that you currently use to disclose your pronouns during online communications (such as email or Teams)?

Show us any ways that you modify parts of your correspondence or work profiles to include your personal pronouns. How do you "hack" your Office Profile to make sure your pronouns and name reflect you?

How did you make those modifications to your Profile?

Tools for Sharing Pronouns

Do you think the ability to declare your pronouns on your profile card would be valuable to you? Why or why not?

What is your most significant reason for wanting to share your pronouns on your profile card?

What is your most significant concern about sharing your pronouns on your profile card?

What do you think would be the most useful tool we could build for sharing your pronouns?

What do you think would be the most awful tool we could build and why?

Are there any people you would want to be able to hide your pronouns from?

What would be the most important thing for you to consider when choosing whether or not to use a tool to share your pronouns?

If you did disclose your pronouns on your profile card, what do you think would be the most likely result in your workplace?

How do you think other people might respond to seeing your pronouns?

What features would you want to see?

What features would you not want to see?

Module 1 Group B

[All participants will be invited to complete Module 1. Group B includes all cis participants]

Company Policies and Practices

Who do you spend most of your time communicating with at work?

What are the forms of day-to-day communication that you use the most?

Do you know anyone who is out as transgender or nonbinary in your workplace? If so, how do you think people have responded to them?

What are your company's policies on transgender issues? Do you know of any policies in your workplace that might support or work against someone who wanted to disclose their pronouns or gender identity? In your experience, what is the general atmosphere around LGBT issues in your workplace?

Pronoun Usage

How often do you think about your personal pronouns?

About how often do people know and use your correct pronouns without you needing to tell them?

What do you do to learn about other people's pronouns at work?

How do you let people know about your own pronouns?

Correcting Pronouns

Are there times at work when you've felt someone didn't know how to address you? What did you do in those settings to deal with the situation?

Are there times at work when you didn't feel that you knew how to address someone else? Why were you unsure? What did you do in those settings to deal with the situation?

Have you ever had conversations about someone else's pronouns at work? If yes, What did people say in these conversations?

Have you ever received comments or feedback (either negative or positive) from your coworkers or supervisors about how you use other people's pronouns?

How do you think your position in your company affects your decisions on this issue?

How do your other identities affect your decisions and experiences with pronoun disclosure?

How do you feel in general about the idea of people sharing their personal pronouns in the workplace?

Have your feelings about this issue changed over time? Why or why not?

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Are there any people you would want to be able to hide your pronouns from?

What features would you want to see?

What features would you not want to see?

Module 2 – Non-Anglophone participants

[All participants from Group A or B who speak languages other than English will be invited to complete this module]

Pronoun use across languages

What languages do you use at work?

What personal pronouns do you use in the other language(s) that you speak?

Do the personal pronouns that you use in other language(s) reveal anything about your gender identity or gender expression?

Do you use pronouns in another language that indicate a different gender expression than the pronouns you use in English? [For example, you may use "they/them" (neutral/non-binary) in English but "enta/huwa" (masculine) in Arabic]

When you switch between English and another language, do you shift the way you express your gender through language in any way?

Besides personal pronouns, are there other words or phrases in the other language(s) you speak that indicate your gender identity or gender expression?

Are there any times when you find it difficult to express your gender identity in any of the languages you speak?

Do you prefer to use one of the languages that you speak over another because it allows you to express your gender identity more comfortably?

Language and pronouns at work

Do you use more than one language on a regular basis at work?

With whom do you use each language?

Would you find it useful for your coworkers to know what pronouns you use in languages besides English?

How useful would you find pronoun-sharing software that would allow you to indicate what pronouns you use in multiple different languages? [for example, "he/him, enta/huwa" - English and Arabic pronouns displayed at once]

Do you have any concerns about how your pronouns may be shared with audiences that don't speak your language in your workplace?

Are there other times at work, besides sharing personal pronouns, where you have encountered any difficulty in expressing your gender identity?

Besides pronoun sharing software, are there other tools we could design that would make it easier for you to feel comfortable in expressing your gender identity in the workplace?

Module 3 – Institutional Perspectives

[All participants from Group A and Group B who work in HR or IT or similar positions will be invited to complete this module.]

I'd like to ask you now about your perspectives about implementing this kind of tool at your company as a whole.

Value for Institution

What strategies are employees currently using at your company to share their pronouns?

Do you think the ability to declare your pronouns on your profile card would be valuable to your company? Why or why not?

What kinds of discussions have people had at your company about sharing pronouns? Are you aware of anybody who has asked for digital tools for sharing pronouns, or anybody who has spoken in opposition to such tools?

How do you think this kind of tool fits into your company's strategies for developing personnel/technology/diversity and inclusion?

From your perspective as an [HR/IT professional], what would be the main benefits of deploying this kind of tool at your company? What would be the biggest drawbacks, or what are your main concerns?

What is your most significant reason for wanting (or not wanting) to implement software to allow people at your company to share their pronouns on their profile card?

What would be the most important thing for you to consider when choosing whether or not to implement a tool for sharing pronouns at your company?

Implementation

What training does your company currently provide employees about how to share pronouns or how to respond when learning about other people's pronouns? Who at your company is responsible for providing such training?

What kind of additional training or education do you think would be necessary to successfully deploy this kind of tool at your company and have most employees use it? What resources do you have to provide such education? What additional resources would you need?

What institutional structures does your company have in place that might help you successfully deploy this feature? These might be company policies, culture, or technological features.

What roadblocks do you anticipate your company would encounter if you introduced this feature? These might be due to company policies, culture, or technological constraints. What resources or strategies would you need to overcome these roadblocks?

What kinds of privacy or visibility controls do you think would be important for this kind of tool?

Closing

That's all the questions I have for today. Before we wrap up, is there anything we've discussed today that you'd like to follow up about, or anything else that we didn't talk about that you wanted to say?

Is there anyone else you know who we should talk to?

Thanks again for your time, we really appreciate your help with this research project.

Received January 2022; revised July 2022; accepted November 2022.