

# Reflexivity, Interactions and Intersectionality in HCI and CSCW

Alice Ashcroft  
School of Computing and Communications  
Lancaster University  
*alice.ashcroft@lancaster.ac.uk*

**When Intersectionality is considered within HCI it is usually only one aspect that is given attention, and this is made the topic of the study itself. Whether or not this should be the case is debated, as scope is often something researchers try to outline. This paper argues that reflexivity offers a particularly important solution when it comes to Intersectional HCI combined with the observing, analysing and understanding the impact on interactions between users and the technology, as well as the interactions between the teams building the software. This paper calls for all researchers to consider how race, gender, and other characteristics may affect their research even when these are not the topics being researched, and to share this data in publication.**

*interactions, reflexivity, Intersectionality, HCI, CSCW*

## 1. INTRODUCTION

When it comes to the analysis of diversity, and the impact this has on the observations and analysis of interactions (including any dialogue, text chats and communication) within Human Computer Interaction (HCI) research and software development industries at large, there is seemingly a propensity to focus on one area of ‘diversity’ at a time (Davis 2008), e.g. gender *or* race *or* economic background. Considering the impact that this has on the design of systems, previous research surrounding gender suggests that these impacts cannot be understated (Ashcroft 2022). What should be considered therefore, are the limitations of existing approaches and opportunities for learning that *true* Intersectional research can offer.

Linguistically, ‘Intersectionality’ may simply refer to the ‘crossover’ of multiple identities, but theoretically, Intersectionality is a product of Black Feminist Theory (Vincent 2018). It is argued that “*as scholars, if we are not working against such re-inscriptions of power [...] and if we are not explicitly calling attention to power from a feminist, intersectional perspective, we are merely passive participants in what we have always proclaimed to be an actively engaged field*” (De Hertogh et al. 2019). True representation of participants is not always possible due to anonymisation, emotional labour and many other reasons. However, even when only one characteristic, such as gender, is considered, there

is still not nearly enough being done to ensure this representation in HCI (Barkhuus and Rode 2007). Therefore there should be consideration taken to understand what can be done to overcome this, leading on from the work done by Bardzell (2010) on interaction design, but extended to involve all types of conversation that happen throughout research.

Often the onus and emotional labour is placed upon those who are already systemically disadvantaged, to take part in research or carry out the research itself. This overly simplistic version of representation, or ‘box-ticking’, is not enough in order to make the systemic change that is needed within the HCI and Computer-Supported Cooperative Work (CSCW) communities, and that is what shall be discussed in this paper, alongside how this fits into qualitative methodologies more widely, particularly including issues surrounding reflexivity. Interactions, such as discourse and conversation, are affected by issues of diversity, and research often relies on these interactions. ‘Interactions’ in this exploratory paper will be defined as communication between those creating digital solutions, and the dynamics between users and the solutions (HCI). Only by understanding Intersectionality and how this applies to HCI research and interactions, can research begin to uncover problems found within the industry and suggest opportunities for growth and improvement.

True feminism is intersectional, and is must be understood as such;

*“It has to involve a consciousness of capitalism, and racism, and colonialism, and postcolonialities, and ability, and more genders than we can even imagine, and more sexualities than we ever thought we could name.” - Ahmed and Irani (2020)*

Therefore, a comprehensive understanding of Feminist HCI should be applied to the context of this paper. As Bellini et al. (2022) state, *“it is not the problem domain of gender and computing (or, perhaps, the lack of such) that makes a methodology practice feminist, but rather its ‘connection to feminist thought’.”* This will be considered as Feminist Methodologies are discussed within this paper (see Section 3.1).

This paper will bring existing recommendations in research together regarding Intersectionality and HCI, but combine this with the importance of reflexivity. First an understanding and definition of Intersectionality is laid out (Section 2) and how this ties into existing understandings regarding methodologies is explored (Section 3.1). Then, existing research regarding Intersectionality and HCI is outlined (Section 3.2), including how users are represented and how this must go beyond box ticking. How this ties into and is supported by Reflexivity is then explored (Section 4, and recommendations from various authors are presented on how this can be used to improve the quality of research being produced (Section 5).

The aim of this paper is to provide an outline of existing research, and a bibliography of resources for further reading, and to call all researchers to consider how their own characteristics may affect their research, and to remind all researchers to take part in reflective practices. As members of the HCI and CSCW communities, there is a collective responsibility to build a world within technology that is open to all; and this must begin with an understanding that one researcher cannot represent ‘all’.

## 2. UNDERSTANDING INTERSECTIONALITY

As stated above (Section 1), Intersectionality is often misused as a label, when discussed in relation to Feminist Methodologies, and is looked at as the intersection of any two characteristics. It can also often be used as a ‘buzzword’ (Davis 2008) instead of invoking actual change in fields of research.

*“Intersectionality is a theoretical product of black feminist thought – so whilst strongly related to feminist methodologies, it is also distinctly important*

*in its own right. Many trans people are “highly aware and sensitive to the value of Intersectionality”.* - Vincent (2018)

An example of this misunderstanding, can be found in research regarding the impact that gendered language can have on HCI and software design processes. In the discussion of how men can often take over a conversation due to the way in which men and women have been taught to speak (Stokoe 2004; Ashcroft 2021), neuro-diveristy<sup>1</sup> is often used as an example as to why men could speak over<sup>2</sup> women for reasons beyond their control. In these discussions, this is often related back to Intersectionality, but raises the suggestion that power dynamics and factors are interchangeable, or of equal impact. This is rarely the case when it comes to Intersectionality, with studies proving that those with multiple identities of under-represented groups are often disproportionately disadvantaged and made to feel that they do not belong (Mooney and Becker 2020).

*“Intersectionality is not easy. But it is necessary to try our best to do respectful and representative research that seeks innovative and inspiring solutions that actually work for specific populations who are themselves complex and diverse.” - Morris and Bunjun (2007)*

This issue of “who can do research”, at least when it comes to gender, is reminiscent of the work of Hacking et al. (1999) in that it raises the ever present question of who is entitled to research issues of gender, race or any other characteristic?

*“Therefore, when seeking to uncover and access saturated sites of violence, one should question not only what viewpoints are included, but also which viewpoints are excluded, what ways of knowing are centered and which are left out, as well as why and whether excluded voices and epistemologies should be included.” - Erete et al. (2023)*

Furthermore, when these characteristics are not the focus of the research and instead characteristics that will simply *affect* the research, where does the responsibility lie to ensure the research is equitable in terms of Intersectionality? It could be argued that any research could be broken down through an understanding of empathy and reflexivity (discussed in Section 4). However, as stated by Erete et al.

<sup>1</sup>Neurodiversity is a term often used to describe those with “atypical cognitive profiles” such as “those with autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), and/or other learning disabilities, such as dyslexia” (Morris et al. 2015).

<sup>2</sup>Of course, overlaps in conversation can be “an example of collaboration” (Stokoe 2018), however it is still important to consider how power dynamics could affect this.

(2023)<sup>3</sup>, it is still vital to ensure the understanding of which voices are being *excluded* not just *included*. But what should first be understood is how these issues apply specifically to HCI and how they are currently being investigated.

### 3. HCI RESEARCH, GENDER AND INTERSECTIONALITY

When it comes to gender and HCI research more broadly, where interaction is not the main focus of the research, there are many papers and publications outlining the lack of representation in both the sector more widely, and in the research surrounding this (Barkhuus and Rode 2007).

Gender representation of HCI research participants, and their identities, is one area that has been analysed in depth by Offenwanger et al. (2021), motivated by previous research showing that “data-driven surveys of HCI research participants showed that participant demographics are biased in favour of men” (Caine 2016; Barkhuus and Rode 2007).

Barkhuus and Rode (2007) showed that over 23 years there has been a shift to show participant information but that later studies, from 2000 and 2006, do not include many women at all<sup>4</sup>. This increased awareness of gender issues in HCI, shown by Barkhuus and Rode (2007), has seemingly led to an increase in representation within some studies. However, this increased number of “studies that do not mention gender balance” show that there is still work to be done.

Bringing this back to Intersectionality (although this example of gender can be used as an illustration of a singular diversity issue) it should be considered how these issues may extrapolate when looked at alongside other characteristics. Therefore an understanding of Intersectionality within HCI should be examined more closely. How this ties into a Feminist Methodological framework (which should, in theory, be Intersectional by default), is discussed in Section 3.1, as is an outline of existing research regarding Intersectionality and HCI, discussed in Section 3.2.

<sup>3</sup>Erete et al. (2023) outline a five step method on how to apply “Black feminist epistemologies to describe specifically how power plays out in particular contexts” This paper is incredibly interesting and informative, and this author thoroughly recommends reading this to understand more on how power impacts HCI.

<sup>4</sup>Since 2007, there seems to be little comparative data within HCI being produced, and therefore this has not been included. There is a need for this investigation to be completed again for gender and other characteristics.

### 3.1. Feminist Methodologies

When conducting HCI research, even when gender is not the *focus* of the research, it is important to consider feminist methodologies (Morris and Bunjun 2007; Schlesinger et al. 2017). There exists literature regarding Feminist Methodologies and HCI (Bardzell and Bardzell 2011), and how these can be applied when gender is the topic of research, but few seem to consider this when gender is not the investigated area. When it comes to Feminist Epistemology, “*there has been debate between feminists about whether there can be feminist epistemology*” (Barbour 2018). Although if epistemology refers to the theory of knowledge and understanding, and the subjects of the research ‘have gender’, then the argument from feminists that “*gender and individual identity are significant in the process of becoming a subject and a knower*” (Flax 1993; Barbour 2018). This surely then must be relevant in social research, and arguably all HCI research. However when it comes to applying feminist epistemologies in CS, where often logic and structure are seen as important values, this may clash with the more general understanding of how knowledge is formed.

As stated by Hancox-Li and Kumar (2021), “*feminist epistemology has long taken a critical stance towards fully formalized systems, instead emphasizing the interactive nature of knowledge creation and the importance of exploring multiple possible meanings*”. Therefore, as stated by Longino (1994), there should be a distinction made between feminist epistemology as a practice, or as content:

*“If, as I suggested, we understand feminist epistemology as practice rather than content, it may well be appropriate to take issue with some analysis produced by the practice, but it is hard to see how one could be for or against feminist epistemology except insofar as one is for or against feminism.”* - Longino (1994)

This ties back to the comparison of facts and opinions, and how these are derived from knowledge. Pernecky (2016) strongly states that “*to claim the objectivity of social facts is to attract the critique of anti-realist and anti-objectivists, strong social constructionists, deconstructionists, and many a critical theorist*”. But there seems to be a consensus that data collection is the way of deriving these “social facts”. So when it comes to HCI research, regarding interaction or otherwise, how is this knowledge derived, and what impact does this have on research going forwards?

*“Feminist epistemology ensures women’s ways of seeing are central to research purpose and process. In particular, feminist standpoint theory, including*

*Black feminist standpoint theory, recognizes epistemic privilege.*" - Fuller (2020)

Although Feminist Methodologies, which underpin the data collection used to support Feminist Epistemology, acknowledge gender, Intersectionality (as displayed by Fuller (2020)) and the fields of HCI and CSCW have seemingly only just begun to intersect (Schlesinger et al. 2017), as discussed below. However, what should be understood is that some of the core conceptions of knowledge held by HCI (and that logic and structure are seemingly the most important values within CS), contradict the understanding of how knowledge *should* be formed when it comes to Feminist Epistemology, and therefore Feminist Methodologies. As outlined by Bardzell (2010), feminist methodologies allow interaction designers and researchers to "incorporate feminism in user research, iterative design, and evaluation methodologies to broaden their repertoire for different contexts and situations".

### 3.2. Intersectionality and HCI

When exploring the realm of Intersectionality and HCI, a plethora of publications exists, yet what remains to be fully explored are those that concentrate on group interactions and their impact on what is being created as the central theme of research. What shall be discussed in this Section, are the two main themes which seem to emerge in literature regarding Intersectionality and HCI: representation of users, and going beyond 'box-ticking'. Fox et al. (2017) state that within CSCW, "issues of power, inequity, and gender are of crucial concern, rather than matters to be dismissed as markers of researcher bias",

#### 3.2.1. Representation of Users

Quoting Cooper and Bowers (1995), Schlesinger et al. (2017) state the importance of representation when it comes to users in HCI research; "A pervasive, fundamental and highly visible feature of HCI discourse has been its representation of the user". As outlined by Barkhuus and Rode (2007), with their analysis of the studies that mention gender balance, there is still much work to be done when it comes to this regarding gender, let alone any other characteristic. Simply 'being in the room' is not enough, and what should be considered is how people are heard and how they are made to feel once they are there (Ashcroft 2022).

#### 3.2.2. Intersectionality in HCI must go beyond 'box-ticking'

Thomas et al. (2018), in their 2018 paper, examined the narratives of 11 Black women in CS through semi-structured interviews in order to understand their experiences and found that they "had to

*negotiate spaces of simultaneous racial and sexual discrimination, something that groups such as White women and Black men do not face, as well as other negative experiences".* This is particularly relevant when it comes to CS as a space, with women and people of colour both being underrepresented in the sector.

*"Intersectionality is not simply a matter of checking the boxes for gender, race, or class."* - Rankin and Thomas (2019)

Rankin and Thomas (2019) support the idea that Intersectionality in HCI is essential but also implore readers to acknowledge that "*the existence of a Black women's standpoint does not suggest that all Black women are alike or the same*". This seems to go beyond issues of generalisation in social research, and supports their suggestion that Intersectionality should be more than "checking the boxes", and instead seeing any participant in research as an individual, with individually lived experiences. Examples of including communities within the design process can be seen within the HCI community already; for example Haimson et al. (2020) who outline the importance of designing *with* people not for them; reminiscent of the phrase often coined in the disabled community; "not for us without us".

These two themes observed in the literature and outlined in Section 3.2, are by no means extensive or systematic, but illustrate that the importance of Intersectionality and HCI is understood in the HCI and CSCW communities.

## 4. INTERSECTIONALITY AND REFLEXIVITY

Reflexivity, at its core, refers to the effect the researcher can have on the research, and can be described as another understanding of the way in which knowledge is formed. Examples of this within HCI are well researched (Chen et al. 2017), but with a lack of specificity given to the impacts of Intersectionality (although some considerations are given to one characteristic at a time, e.g. gender (Bardzell and Bardzell 2011)).

*"Calls to reflexive social inquiry do not maintain a simple separation between subject and object or between the knower and the known. Reflexivity involves turning back on oneself in order that processes of knowledge production become the subject of investigation."* - May et al. (2014)

Using the standard sociological view of reflexivity (such as the work of May et al.), this requires that the researcher considers their own characteristics and

how they interact with or impact on the interpretation and understanding of Intersectional identities.

The ethnomethodological take on reflexivity, as outlined by Slack (2000) in a critique of a paper by May (1999), could also prove important and crucial methodologically. Slack (2000) argues that “*central problematics of the reflexivity debate have been laid out in the continuing program of re-specification developed by ethnomethodology, and that the concerns expressed by May and others are sociological problems not problems for members*”. An example of this was given by Locke, who found that one interview in their research “shattered” their own positioning as a researcher when it came to heteronormativity.

Alongside this, the consideration of participants in research involves reflexively accounting for their interactions, thereby making the actions and interactions clearly visible. What should be carefully considered in line with this, is how Intersectionality might feature in participants’ accounts, aligning with what Sacks might call a ‘membership categorisation devices’ (Sacks 1992). Examples of this when it comes to gender and HCI, can be seen in existing work on ‘hedging’ where women are (or appear to be) anxious in the ways in which they express uncertainty (Holmes 1986; Ashcroft 2020, 2022), but need to be understood further when it comes to intent and reflexivity.

Fuller (2020) states that there are three areas of reflexivity: “reflexivities of complacency”, “reflexivities that discomfort”, and “reflexivities that transform”. It could be suggested that these are approaches to Intersectionality too. For example, “reflexivities of complacency” are defined through the confirmation of “*a self-narrative and identity as feminist (e.g., experiencing, recovering from and confronting a range of gender related oppressions), upwardly socially mobile (e.g., moving from manual working-class to educated middle-class, into a profession), anti-racist (e.g., calling out, teaching, and researching about racism) and social activist (e.g., campaigning for human rights, supporting professional activism about women’s careers in education)*” (Fuller 2020). This supports the example given above from Locke (2015) who self reflected upon their complacency in the methods they had designed for their research. Fuller (2020)’s second stance of reflexivity, “reflexivities that discomfort” align very strongly with the active “work” that many Black Feminist writers encourage readers to engage with (Saad 2020; Eddo-Lodge 2020) - which could certainly be described as an Intersectional practice, as those partaking this must uncover their own identities. The third area of reflexivity, described by Fuller (2020), is that of

“reflexivities that transform”. An example used to illustrate this is the aim of “de-centring whiteness whilst simultaneously acknowledging it” - this may be seemingly impossible, and a contradiction, but if this was achieved, it would be truly transformational. “Engaging with reflexivities that discomfort has the potential to transform self-narratives, construct relationships, and carry out and interpret research differently” (Fuller 2020) and this should therefore be considered in significant depth and with as much critical self reflection as possible before any research is designed or conducted.

This ethical obligation that researchers have to ensure their research does not contain any bias, supports Feminist Methodologies (as outlined in Section 3.1), and the issues around reflexivity as discussed in this Section. This obligation is also supported by Christoffersen (2018) who found “*that in spite of the growth of critical methodological approaches, dominant texts lack meaningful consideration of researchers’ intersectional positionality*” and by Henriques et al. (2023), who once again raise the notion of intentionally looking at gender differences and not deliberately choosing to be “gender-blind”. This overlap between Intersectionality and Reflexivity should have implications for HCI research going forwards.

## 5. RECOMMENDATIONS FOR RESEARCH REGARDING INTERACTIONS

Intersectionality should be considered in all areas of HCI research (Schlesinger et al. 2017), but what remains to be seen is the application of this, to understanding the effect of Intersectionality on Interactions within a HCI context. This is not to say Intersectionality is any more or less important for this particular area *within* HCI, interactions, but to say that there are currently no unified recommendations for interactions as the focus.

Consistently reporting context, including demographics<sup>5</sup>, is a repeated guideline when it comes to Intersectionality in HCI; with Schlesinger et al. (2017) stating that the “global research community means we cannot assume any one context is ‘normal’”. This may be key when looking at research outside of a university context, as a lot of social research uses students as participants where possible due to ease. Therefore it is important when extrapolating findings out wider to avoid generalisation (Sharrock and Randall 2004), which could also be argued to be a simply good research practice. However, the

<sup>5</sup>The only concern here would be to not expose the identity of minorities taking part in research, depending on the sample, which poses quite a significant challenge. However, reporting context will allow others who may build on this research to understand the conditions in which certain results were obtained, and therefore transparency in publications is key.

context in which discourse and interaction takes place should be shared due to the impact that this could have on how the interactions take place and their outputs. Furthermore, when Intersectionality is considered, as many characteristics as possible should be exposed within research (again, whilst protecting participant anonymity), in order to avoid this generalisation and increase the reliability of replication. The self reflective practice and considerations regarding Intersectional reflexivity, should be seen as a key component of any methodology.

As characteristics such as gender are known to have an impact on interactions (Stokoe 2004), other characteristics may also have an impact. Therefore reporting context and demographics should be more explicitly applied when interactions are the topic of research, as the potential impact of these characteristics are higher. Sharing, without exposing anonymity, the research participant's characteristics will allow the data to be better understood by future readers of the research, and potentially understand the impact these characteristics may have had.

With regards to fully exploring how all intersections may affect all interactions, one of the main limitations of this is regarding identity. For example it may not always be possible to study overlapping identity categories (Schlesinger et al. 2017)<sup>6</sup> with "enough" samples to placate all researchers (Crabtree et al. 2013). Put simply, if the scale of the research causes a sample to be chosen that does not include a diverse range of participants, can the output still be used? Some academics (Schlesinger et al. 2017) believe it can be, if it is acknowledged. But what should be considered beyond the recommendations of Schlesinger et al. (2017) is how empathy and reflexivity can be used to "fill the gaps". It is simply impossible to record and analyse all meetings that have ever or will ever take place, for example and whilst generalisation is a valid concern, it is common practice within research to make broad assumptions from seemingly very little data. How the researcher's own experiences have affected their own outlook will of course affect this further, a well established school of thought pertaining to reflexivity.

One way of sharing the potential impact of the author's lived experiences is to provide an "author disclosure" (Schlesinger et al. 2017), whilst recognising some researchers may elect not to do this for fear of discrimination and bias shown towards their work – even if this is subconscious, they recommend that if "there is information that would

help the community better interpret a publication, like a privilege, ethics, or values disclosure" that it should be shared. An example of this can be seen by Erete et al. (2021), who dedicate an entire section of their paper to a "Positionality Statement", and again in their later work (Erete et al. 2023) where the authors outline their position, using Standpoint Theory as the basis (Harding 2004). Standpoint Theory challenges the assumption that acknowledgement of sharing positions will allow politics to "obstruct and damage the production of scientific knowledge" (Harding 2004). This position is not only meeting the standards set out by Schlesinger et al. (2017), but is particularly relevant, given the topic of their paper is Intersectionality in HCI and CSCW communities. It could, again, be argued that this is incredibly similar to reflexivity (as discussed in Section 4), and is just re-emphasising the acknowledgment of an important research practice. Nonetheless, sharing positionality may allow for a deeper understanding of any research shared and analysed by future researchers. It is, however, understandable to hold reservations over sharing Positionality Statements due to potential bias against researchers themselves – another valid reason for anonymous reviews of publications. When it comes to how these statements may specifically effect the research of interaction is difficult to say. However these statements may give the readers of research more information and context - for example, could the characteristics of the authors affect the way they present their work? To give two examples, in this exploratory paper, for the anonymous review the Positionality Statement was removed, but for this information will available upon publication in the acknowledgements. Secondly, upon receiving detailed feedback on this paper, it was pointed out that there was a significant amount of 'Hedging' used, which is often used by women to downplay their contributions (Ashcroft 2020).

Finally, there is the recommendation for HCI researchers to embrace the complexity of identity; that researchers "identify a number of identity categories to track", and that any out of scope complexities should be acknowledged in limitations (Schlesinger et al. 2017). This also ties into the views of Marsden et al. (2017) which suggest that personas should not be limited by gender, even if gender is the topic of research; *all* variables around identity should be acknowledged. When it comes to interactions, these categories may be wider as there may be more sub-categories to consider such as 'native languages' or the 'fluency level' of the language the study is taking place in. This recommendation seems to explicitly tie into Intersectional practices more widely, but for this to be carried out well, reflexivity should also be considered so that any characteristics

<sup>6</sup>Furthermore, as mentioned above, it is key that the emotional labour is not transferred to participants who identify as belonging to underrepresented groups. It is not the job of those underrepresented to fix an issue they did not create and continue to be disadvantaged by.

are not assumed to be the 'default' or overlooked for the sake of simplicity or analysis.

Overall, these existing recommendations in research have just one attribute in common; **transparency**. Being transparent in research, is simply good research practice. Transparency is fundamental in order to replicate results and prove research to be correct and when it comes to diversity, is even more relevant. Other suggestions found in literature such as ensuring the citation of Black women (Rankin and Thomas 2019), can be found, and should also be applied where possible. However this is not always readily available information, but may well be if other suggestions such as "Positionality Statements" are applied (for example by Erete et al. (2021)).

Furthermore, when considering the true definition of Intersectionality and the multi-faceted nature of identity (Vincent 2018), **race and ethnicity** must be carefully considered throughout any research, even outside of the HCI and CSCW communities. Especially as a large amount of this research takes place within a Higher Education institution, and as Akel (2019) states "there are a number of systemic ways that racism manifests in higher education".

## 6. DISCUSSION

The main recommendations regarding Intersectionality and HCI outlined in this paper (as discussed in Section 5), are very much inline with the issues and 'solutions' to reflexivity (as discussed in Section 4). Although, as stated above, many of the recommendations made are regarding transparency of intent, methodologies, and results. There is seemingly only one recommendation, that of Positionality Statements, which focuses on the disclosure of information pertaining to those carrying out the research.

Furthermore, when reflexivity is considered, it could be argued to be similar to the self reflective practices outlined by many Black Feminist scholars (as stated above), and that this should involve some self reflection and improvement; i.e. 'doing the work' (Saad 2020). This is seemingly in parallel to the work of Fuller (2020) and the types of reflexivity they outline.

To fully understand the impact of Intersectionality on HCI research, that a combination of these reflective practices and practical implementations should be carried out and shared. It is not simply enough to ensure that there is full representation of all characteristics in research groups, participant pools or in research communities (although, of course, equal opportunity is something that should be strove for), but alongside this, there must be some

reflective practice, informed by long established understandings of reflexivity and how knowledge is formed in line with Feminist epistemology and methodologies.

## 7. CONCLUSION

Feminist Methodologies (as discussed in Section 3.1), Reflexivity (as discussed in Section 4) and how to apply Intersectional HCI research (as discussed in Section 5) are well established areas of research. However, what remains to be seen is how this affects the observation and understanding of interactions, and how this plays a part in the study of HCI and CSCW. The contributions of this paper are focusing specifically on these interactions and the potential further work to be done here, as well as a summarising of the recommendations across much of the literature. As outlined by Brewer (2022), who shares the importance of Intersectionality in Game design and research, "several scholars have made inroads with their explicitly feminist (e.g. (Bardzell 2010)), queer (e.g. (Spiel et al. 2019)), and trans contributions (e.g. (Haimson et al. 2020))" with race often being overlooked.

Emerging research on the direct relationship between discourse and HCI has begun to emerge (Ashcroft 2021). However, there still remains research to be completed when it comes to diversity to include more characteristics than gender. As outlined in Section 5, there are a number of changes which researchers can apply to their understanding of existing literature, application of methodologies and analysis and presentation of research, but more specific considerations need to be taken into account when it comes to each sub-area within HCI. For example, when studying interactions, there are likely to be a significant number of factors affecting the power dynamics at play, and applying Intersectional frameworks may account for the deeper study and understanding. In addition to this, it is essential to grasp and reflect upon the insights gained and a deeper understanding of reflexivity, as it informs the foundation upon which knowledge is shaped, allowing us to truly comprehend the nature of Intersectional research. Only by understanding issues regarding race, gender or any other characteristic, and reflecting upon these and the impact that this may have in any HCI or CSCW work, will true Intersectional research be able to be carried out.

This paper makes a number of suggestions, supported by existing work regarding Intersectional HCI (Harding 2004; Schlesinger et al. 2017; Erete et al. 2023), as to how Intersectional research can be carried out when Interactions are the

topic of research *within* HCI. With transparency being the first suggestion, this paper calls for all researchers to consider how race, gender, and other characteristics may affect their research even when these are not the topics being researched, to consider the effect that reflexivity may have, and to share this data in publication. Secondly, this paper calls for all researchers to take part in reflective practices when it comes to their own understanding of characteristics such as race and gender to uncover how this may impact their work, in short - understanding reflexivity.

The impact of these issues on the world at large cannot be understated. Failure to acknowledge the influence of interaction and Intersectionality on processes, research, and outputs within HCI communities should not continue. In order to build technology that is suitable for all, there needs to be an understanding of who is building it, and the implications that reflexivity may have.

## ACKNOWLEDGEMENTS

**Positionality Statement:** It should be acknowledged that this author is white, and this comes with privilege. Attention should be given to the authors of colour cited throughout this work.

Thank you to my PhD supervisors Dr Lynne Blair and Dr Mark Rouncefield for their support and guidance on this paper and everything else. Thank you as well to the reviewers of this paper who outlined how these areas could be highlighted more clearly.

## REFERENCES

- Ahmed, A. and Irani, L. (2020), 'Feminism as a design methodology', *interactions* **27**(6), 42–45.
- Akel, S. (2019), 'Insider-Outsider: The Role of Race in Shaping the Experiences of Black and Minority Ethnic Students'.  
**URL:** <https://www.gold.ac.uk/media/docs/reports/Insider-Outsider-Report-191008.pdf>
- Ashcroft, A. (2020), 'Hedging and gender in participatory design', *International Conferences Interfaces and Human Computer Interaction 2020*.
- Ashcroft, A. (2021), 'Do I belong here? An exploration of meeting structure and language, alongside gender and a sense of belonging.', *OzCHI '21, November 30-December 2, 2021, Melbourne, VIC, Australia*.
- Ashcroft, A. (2022), I think "hedging" could be a feminist issue in software engineering, *Proceedings of the 20th European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing on the Design of Cooperation Technologies - Exploratory Papers, Reports of the European Society for Socially Embedded Technologies*.
- Barbour, K. (2018), *Embodied Ways of Knowing: Revisiting Feminist Epistemology*, Palgrave Macmillan UK, London, pp. 209–226.  
**URL:** [https://doi.org/10.1057/978-1-137-53318-0\\_14](https://doi.org/10.1057/978-1-137-53318-0_14)
- Bardzell, S. (2010), Feminist hci: taking stock and outlining an agenda for design, *in* 'Proceedings of the SIGCHI conference on human factors in computing systems', pp. 1301–1310.
- Bardzell, S. and Bardzell, J. (2011), Towards a feminist hci methodology: social science, feminism, and hci, *in* 'Proceedings of the SIGCHI conference on human factors in computing systems', pp. 675–684.
- Barkhuus, L. and Rode, J. A. (2007), From mice to men-24 years of evaluation in chi, *in* 'Proceedings of the SIGCHI conference on Human factors in computing systems', Vol. 10, ACM New York, NY.
- Bellini, R., Meissner, J., Finnigan, S. M. and Strohmayer, A. (2022), 'Feminist human-computer interaction: Struggles for past, contemporary and futuristic feminist theories in digital innovation', *Feminist Theory* **23**(2), 143–149.
- Brewer, J. (2022), Playing unbound: Towards a radically intersectional hci, *in* 'Extended Abstracts of the 2022 Annual Symposium on Computer-Human Interaction in Play', pp. 270–272.
- Caine, K. (2016), Local standards for sample size at chi, *in* 'Proceedings of the 2016 CHI conference on human factors in computing systems', pp. 981–992.
- Chen, K.-L., Clarke, R., Almeida, T., Wood, M. and Kirk, D. S. (2017), Situated dissemination through an hci workplace, *in* 'Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems', pp. 2078–2090.
- Christoffersen, A. (2018), 'Researching intersectionality: Ethical issues: Jo campling essay prize, post-graduate winner, 2018', *Ethics and Social Welfare* **12**(4), 414–421.
- Cooper, G. and Bowers, J. (1995), 'Representing the user: Notes on the disciplinary rhetoric of human-computer', *The social and interactional dimensions of human-computer interfaces* p. 48.



- Crabtree, A., Tolmie, P. and Rouncefield, M. (2013), "How Many Bloody Examples Do You Want?" Fieldwork and Generalisation, in 'ECSCW 2013: Proceedings of the 13th European Conference on Computer Supported Cooperative Work, 21-25 September 2013, Paphos, Cyprus'.
- Davis, K. (2008), 'Intersectionality as buzzword: A sociology of science perspective on what makes a feminist theory successful', *Feminist theory* 9(1), 67–85.
- De Hertogh, L. B., Lane, L. and Ouellette, J. (2019), "Feminist Leanings:" Tracing Technofeminist and Intersectional Practices and Values in Three Decades of Computers and Composition', *Computers and Composition* (51), 4–13.
- Eddo-Lodge, R. (2020), *Why I'm no longer talking to white people about race*, Bloomsbury Publishing.
- Erete, S., Rankin, Y. A. and Thomas, J. O. (2021), 'I can't breathe: Reflections from black women in cscw and hci', *Proceedings of the ACM on Human-Computer Interaction* 4(CSCW3), 1–23.
- Erete, S., Rankin, Y. and Thomas, J. (2023), 'A method to the madness: Applying an intersectional analysis of structural oppression and power in hci and design', *ACM Transactions on Computer-Human Interaction* 30(2), 1–45.
- Flax, J. (1993), 'Disputed subjects: Essays on psychoanalysis, politics, and philosophy'.
- Fox, S., Menking, A., Steinhardt, S., Hoffmann, A. L. and Bardzell, S. (2017), Imagining intersectional futures: Feminist approaches in cscw, in 'Companion of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing', pp. 387–393.
- Fuller, K. (2020), The "7 up" intersectionality life grid: A tool for reflexive practice, in 'Frontiers in Education', Vol. 5, Frontiers, p. 77.
- Hacking, I., Hacking, J. et al. (1999), *The social construction of what?*, Harvard University Press.
- Haimson, O. L., Gorrell, D., Starks, D. L. and Weinger, Z. (2020), Designing trans technology: Defining challenges and envisioning community-centered solutions, in 'Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems', pp. 1–13.
- Hancox-Li, L. and Kumar, I. E. (2021), Epistemic values in feature importance methods: Lessons from feminist epistemology, in 'Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency', FAccT '21, Association for Computing Machinery, New York, NY, USA, p. 817–826.  
**URL:** <https://doi.org/10.1145/3442188.3445943>
- Harding, S. G. (2004), *The feminist standpoint theory reader: Intellectual and political controversies*, Psychology Press.
- Henriques, A. O., Rafael, S., Almeida, V. M. and Pinto, J. G. (2023), The problem with gender-blind design and how we might begin to address it: A model for intersectional feminist ethical deliberation, in 'Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems', pp. 1–12.
- Holmes, J. (1986), 'Functions of You Know in Women's and Men's Speech Language in Society', *Source: Language in Society*.
- Locke, K. (2015), 'Intersectionality and reflexivity in gender research: disruptions, tracing lines and shooting arrows', *International Studies in Sociology of Education* 25(3), 169–182.
- Longino, H. E. (1994), 'In search of feminist epistemology', *The Monist* 77(4), 472–485.  
**URL:** <http://www.jstor.org/stable/27903405>
- Marsden, N., Hermann, J. and Pröbster, M. (2017), Developing personas, considering gender: A case study, in 'ACM International Conference Proceeding Series'.
- May, T. (1999), 'Reflexivity and sociological practice', *Sociological Research Online* 4(3), 184–192.
- May, T., Perry, B. et al. (2014), 'Reflexivity and the practice of qualitative research', *The SAGE handbook of qualitative data analysis* 109, 109–122.
- Mooney, C. and Becker, B. A. (2020), Sense of belonging: The intersectionality of self-identified minority status and gender in undergraduate computer science students, in 'United Kingdom & Ireland Computing Education Research Conference.', UKICER '20, Association for Computing Machinery, New York, NY, USA, p. 24–30.  
**URL:** <https://doi.org/10.1145/3416465.3416476>
- Morris, M. and Bunjun, B. (2007), *Using intersectional feminist frameworks in research*.
- Morris, M. R., Begel, A. and Wiedermann, B. (2015), Understanding the challenges faced by neurodiverse software engineering employees: Towards a more inclusive and productive technical workforce, in 'Proceedings of the 17th International ACM SIGACCESS Conference on computers & accessibility', pp. 173–184.

- Offenwanger, A., Milligan, A. J., Chang, M., Bullard, J. and Yoon, D. (2021), Diagnosing bias in the gender representation of hci research participants: How it happens and where we are, in 'Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems', CHI '21, Association for Computing Machinery, New York, NY, USA.  
**URL:** <https://doi.org/10.1145/3411764.3445383>
- Pernecky, T. (2016), 'Social Ontology', *Epistemology and Metaphysics for Qualitative Research* pp. 139–162.
- Rankin, Y. A. and Thomas, J. O. (2019), 'Straighten up and fly right: Rethinking intersectionality in hci research', *Interactions* **26**(6), 64–68.
- Saad, L. (2020), *Me and White Supremacy*, 1st edn, Quercus Publishing.
- Sacks, H. (1992), 'Lectures on conversation: Volume i', *Malden, Massachusetts: Blackwell*.
- Schlesinger, A., Edwards, W. K. and Grinter, R. E. (2017), *Intersectional HCI*.
- Sharrock, W. L. and Randall, D. (2004), Ethnography, ethnomethodology and the problem of generalisation in design, in 'European Journal of Information Systems'.
- Slack, R. (2000), 'Reflexivity or sociological practice: A reply to may', *Sociological Research Online* **5**(1), 27–31.
- Spiel, K., Keyes, O., Walker, A. M., DeVito, M. A., Birnholtz, J., Brulé, E., Light, A., Barlas, P., Hardy, J., Ahmed, A. et al. (2019), Queer (ing) hci: Moving forward in theory and practice, in 'Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems', pp. 1–4.
- Stokoe, E. (2018), *Talk: The Science of Conversation*, Robinson.
- Stokoe, E. H. (2004), 'Gender and discourse, gender and categorization: Current developments in language and gender research', *Qualitative Research in Psychology* **1**(2), 107–129.
- Thomas, J. O., Joseph, N., Williams, A., Burge, J. et al. (2018), Speaking truth to power: Exploring the intersectional experiences of black women in computing, in '2018 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)', IEEE, pp. 1–8.
- Vincent, B. W. (2018), 'Studying trans: recommendations for ethical recruitment and collaboration with transgender participants in academic research', *Psychology and Sexuality*.