

An exploratory study on prejudice based on gender identity or sexual orientation perceived by users in social networks

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Abstract— Although research in HCI has been increasingly covering gender and sexuality, the experience of lesbian, bisexual, gay, and transgender (LGBT) people is still underexplored. We aimed to inquire whether digital systems user interfaces reproduce or not oppressions based on gender identity or sexual orientation. By conducting a survey, we gathered some oppressive situations that LGBT people have faced online. Our results suggest that not only the user interfaces reproduce such prejudice, but that the LGBT community perceives it in the social network interfaces and content there posted. Also, current tools fail fighting and preventing oppressions, which impacts the decision of using a network and users' comfort.

Keywords— Gender identity; sexual orientation; LGBT; interfaces

I. INTRODUCTION

The importance of considering user context when building digital systems interfaces has been pointed out since early Human-Computer Interaction studies; however, there are still few considerations regarding the role that gender identity and sexual orientation play at systems design and usage. Neglecting such aspects may affect the user experience and bring social and political implications.

Despite the lack of official statistics, Non-Governmental Organizations (NGO) point that Brazil is known for being the country with the highest rate of killing of LGBT people [45]. One of the latest reports states that 50% of trans people assassinated in 2014 occurred in Brazil [49], where it is also estimated that one LGBT individual is killed or commits suicide each 27 hours [27]. Other non-official statistics estimates that 90% of Brazilian trans population is coerced into prostitution [45]. The lack of official or academic data is another example of the exclusion of LGBT people. Prejudice can also be felt by professional barrier, bullying, mockery, misrepresentation, gender disrespect, rights denial, among others.

This work approaches the subject by formulating the following question: to which extent the interfaces and interactions of social networks are reproducing normative views of gender identity and sexual orientation, causing

discomfort and reinforcing oppressions and exclusions? To better understand this matter, we formulated a survey with university groups, concerning their usage experiences with social networks. The goal was to gather practical information about elements of interaction that could reproduce oppressions and to measure their effect in the decision of using it, and comfort issues of those who use such systems.

In this paper, we describe some theoretical foundation on gender and sexual orientation, the process of conducting the survey and the possible implications of its results. The terms "LGBT-phobia" and "oppression" will be used to refer to any kind of exclusion, hurdle, disrespect, discomfort or offense based on sexual orientation or gender identity. Also, "trans" will be used as synonym of "transgender," and "cis" as synonym of "cisgender."

The paper is organized as follows: the first section presents a brief explanation about gender identity, sexual orientation, our philosophical background, HCI related studies and efforts taken by virtual systems targeted to LGBT people. The second one presents our research design. Finally, we discuss practical aspects about how interaction elements of digital systems interfaces might reproduce LGBT-phobia and how this could be dealt with.

II. WORK CONTEXT

A. Gender identity

Typically, newborns are classified in men or women, based on their genitals. "Trans" is used as an umbrella term to describe people who do not identify themselves with their sex assigned at birth. Some trans people identify as men or women – the so called binary trans. Others are not contemplated by such binarism and may identify with no gender, partially or totally with more than one gender, with distinct genders in distinct instants of time, among others. These people are named non-binary trans. On the other hand, people who identify themselves with the sex they were assigned to at birth are called cisgender¹.

Back in the eighteenth century, Mary Wollstonecraft was one of the first thinkers to radically question sex-based roles, by

¹ The prefix "cis" means "at the same side," in Latin.

stating that men and women may have the same virtuous character and rational approach to life if they are raised the same way [54]. This idea resonated in the mid twentieth century through the work of Simone de Beauvoir. For existentialist thinkers as she, human life is not determined by essential inherent characteristics, but rather defined through exploring and developing latent possibilities. From this premise, she argues that oppressions towards women were historically developed by a men-centered ideology that engenders differences between sexes in different social experiences. She states that there is no essential way of being a woman and that links between “feminine” roles, expectations, and attributes to women are social constructs. This led to her most famous quote “one is not born, but rather becomes, a woman.” [18]

Butler has interpreted the ideas of de Beauvoir as a radical understanding of gender that includes an initial differentiation between sex and gender [14]. On her conception, sex and gender are socially expected to follow a pre-determined ordering: female bodies are associated with women, and male bodies with men. More than that, women are raised to develop distinct abilities than men. Other feminist approaches followed the track opened by de Beauvoir in the 60s. One of the first formal definitions was Gayle Rubin’s sex/gender system, where she defines gender as the socially imposed division of the sexes [46].

More recent works disagree with the notion that sex is immutable, and gender gives shape to it, as if nature and culture were disjoint. Butler questions if sex exists outside culture and even if sex and gender are distinct after all [13], that is, without gender, how could we even think about distinct sexes? Even though this sex/gender separation discussion about has been there for a while, the biologically determinist rationale is still widespread.

Butler advocates that gender is not a universal notion regarding who one is, but one built by acts and roles (e.g. hair shape, manners of walking, preferred toy, color of clothing, hobbies, etc.) that people (re)produce to express their gender [13], as if such acts held a truth about gender. Moreover, people who do not fit the performative expectations are prone to bullying and disfranchisement.

She borrows Adrienne Rich’s concept of compulsory heterosexuality [44] to state that there is a social expectation that imposes that sex, gender and desire be related in a heterosexual fashion [13]. This expectation produces a social coercion in which heterosexuality and cisgender identity are compulsory. More specifically, it is a structure in which lesbians, gays, bisexual and trans do not typically have the same social privileges (and rights) than people matching this order. Instead of using Rich’s terminology, we are going to refer to this structure as cis-heteronormativity, since the term makes explicit that the cisgender identity is part of the expected consonance.

B. Sexual orientation

Sexual orientation is related to one’s object of sexual or affective attraction. At the poles, we have the homosexuality, attraction solely to the same gender, and heterosexuality, attraction solely to other gender. “Bisexuality” term more commonly refers to attraction to two genders. However, some define bisexuality as an umbrella term, which encompasses all sexual orientations between those poles. Since the prefix “bi” may presuppose a binarism of attractions, some advocate for the

use of “pansexuality” as opposed to the attractions to only one gender. There is also the asexuality, that is, the absence of sexual attraction, the attraction only affective, among others.

Western social views on homosexuality have changed throughout history – according to Greenberg [29] in Ancient societies, human sexuality as a positive good in general enabled the acceptance of same-sex practices. It changed in the Roman Empire under the influence of Augustinian views where only procreative sexual practices were allowed, culminating in Justinian’s Code’s prohibition on same-sex relations. In most barbarian kingdoms, a general tolerance towards same-sex relations raised but declined after twelfth and thirteenth centuries.

In the eighteenth century, the theological foundation of sexuality knowledge was replaced by secular and, in particular, medical theories [25]. In this new framework, homosexuality is seen as an unchosen characteristic which might express a pathological mental state and demands, therefore, a medical cure. Although the twentieth century had witnessed a sexual liberation and the expansion of LGBT movements, the medical view remains influent having the homosexuality been removed from World Health Organization’s International Classification of Diseases only in 1990 (transsexuality still remains).

Foucault advocated for a historicist view on sexuality, one where sexuality is not seen as a universal practice observable, but rather one shaped by discursive practices [25]. For instance, during Middle Age, same-sex relationship was just one of forbidden practice from a set of sodomite acts, which also included punishments for certain heterosexual relations [29]. However, the raise of psychiatry and the term “homosexuality” in the nineteenth century gave birth to a new “species,” the “homosexual.” At the same pace it allowed homosexual practices to be pathologized, it also opened an opportunity for people to gather and have a voice.

Although LGBT acronym is used to generally classify people outside the cis-heterosexual spectrum, we stress that one should not use it to label people’s sexual experience. To name different practices is important to remind practitioners of the complexity of identities and understand them as important elements of human individuality, but not to consider them as shaped boxes to put individuals in. We also highlight the interaction with characteristics such as race, social class, and nationality, and the unbalanced representativeness of each letter, with gay men being perhaps the most prominent group. Also, updated acronyms might be used to highlight other groups, such as queers and intersex people.

C. LGBT as systems users

Kannabiran et al. [34] point out that some aspects of sexuality are neglected by HCI studies, due to the great complexity and interdisciplinarity of involved subjects and to the existence of taboos, producing a gap of researches related to LGBT population. The approach in this area has been influenced by feminist [3] and critical theories, such as Queer Theory [e.g. 39]. For instance, Kannabiran [33] argues that we may regard user profiles as something in constant (de)construction, reflecting their own identities organically changing.

Following this denaturalization of gender, the quest for differences in the use of technology between men and women has been discouraged [11, 12] and subjectivist approaches have been preferred such as Kvasny [37], who points out the

combined effects of race, gender and social class in women in technology fields. Few works have considered LGBT people as users of systems and studied their experience. Haimson et al. [30] assessed the use of social media during gender transition while Blodgett et al. [8] advocates for studies on sexual orientation-related disfranchisement on virtual worlds. Freeman et al. [26] included LGBT users in their study about marriage simulation in online games.

Kannabiran and Petersen [35] present a Foucaultian study about Facebook and power relations that take place by interacting with the system. They bring the example of someone who wishes to express their gender identity in their personal profile, but the system does not provide options for that. Hence, the user needs to search for alternative ways of expressing it, such as writing it in their Biography section. It is noted then that the system had an active role in the prohibition (or permission) of an action, and the user used the available interactions as ways of resistance. Thus, such mechanisms of interaction may disfavor groups or promote specific behaviors.

D. LGBTphobia in digital systems

Social networks have made some efforts to better accommodate LGBT people, especially by allowing the inclusion of other genders beside male and female in personal profiles. Google+, for example, allowed since 2011 the choice of "Other" as a gender. At the time, there was a bit of controversy due to the obligation of letting the chosen option be public, but that was changed after a month [31]. Las Casas et al. [38] suggest that providing the option "Other" might not be appropriated, since it clusters trans people with people who just do not want to expose their gender or accounts such as bands, couples' profiles, fictional characters, institutions, etc. In 2014, Google announced two new options: "Decline to state" and "Custom" [6], which displays an open text field and allows choosing the preferred pronoun.

Facebook initially limited the choice between male and female. In 2014, 56 new options of gender were included [19] and, in 2015, an open text field was added to gender, with the possibility of choosing the preferred pronoun [20]. However, as Bivens [7] states, in a database and coding level, the system still stores information in an oversimplified way, built over a binarist bias.

It is well known that Internet has a big influence in self-identification and the exteriorization of the "true self" [5, 9, 30] and, therefore, it is essential that systems care to provide enough options for their users to express their gender and sexuality. Since other authors [22, 32, 53] have shown that developers' stereotypes might be root causes of systems stereotypes themselves and that personal values are always incorporated to the design, one may question the presence of LGBT stereotypes embedded in interaction mechanisms and think about the role that the user interfaces play at reproducing or combating social oppressions.

III. AN EXPLORATORY STUDY

A. Objectives

For Michel Foucault, an influent author for queer and feminist theories, power is exercised in local forms – micropowers – within the network composed by relations between people and institutions [24]. As Kannabiran and Petersen [35] show in their case study about Facebook, digital system and user become political agents through interaction,

which can be seen as power relations. This study aims to expand the knowledge about how such relations are perceived by people interacting with digital systems, how they affect the use experience, and how they are enabled by the available interaction mechanisms.

The consideration of oppressions in interfaces meets at some points the concept of Universal Design or Design for All. Connel et al. [15] already stressed the inclusion of gender as an important factor in planning interfaces, and Stephanidis [48] highlighted the importance of individuality in the design process. Kannabiran et al. [34] states that other related ramifications may impact the progress of HCI field, as well as innovation, commerce, well-being and public health.

B. Method

The approach was based in the work of Kannabiran et al. [34], which uses analysis of discourse to describe how works regarding sexuality have been developed in the HCI field. Following the paper's recommendations, sexual orientation and gender identity are seen in this study as variables to analyze design choices, focused on Internet systems interfaces.

The research comprised an online survey, created via Google Form tool. Its online address was published in one of the authors' profile and in Facebook university groups. Participants were encouraged to share the survey. Only voluntaries at 18 years or older could access the questions. The answers considered were given between 2015, May 29th and June 20th.

The survey is made of 35 questions. First page (Q1-3) gathers information about age and whether any social network is used. We focused on social networks to bring the discussion on how to treat LGBT-phobic user content.

Next, we asked which social networks are used and their weekly frequency of use. We also asked about experienced LGBT-phobic situations (Q6-22) by presenting three types of episodes – LGBT-phobic user content, automatic content or interface elements. We aimed to know if they had already experienced this kind of event, which mechanisms they used to react to this event, and how efficient they were. We presented a list of common tools provided by social media such as reporting, hiding, commenting, and graded their efficiency via a Likert scale. The sections were complemented by open questions to suggest new tools for fighting or preventing LGBT-phobic experience. The list also allowed the insertion of other known mechanisms.

Third page asked questions regarding mechanisms provided to treat privacy concerns (Q23-28). Again, we provided volunteers with a list of options, and asked those which they had already used, how efficient it was and suggestions.

In the last step, participants were asked generally about other LGBT-phobia situations in other systems and how to fight it in open answers (Q27-31). We asked them to grade the importance that LGBT-phobia combat and prevention mechanisms have on the decision of using (or not) a system and the discomfort caused when they are absent. We asked also a general grade to current systems, with regard to such issues. Finally, we collected demographic data about gender identity and sexual orientation (Q32-34) and extra comments (Q35).

IV. RESULTS

A. Demography

A total of 114 answers were analyzed. All volunteers were users of some social network, represented by the following percentages: Facebook (100%), Youtube (82.6%), Instagram (69.6%), Twitter (46.5%), Linkedin (30.7%), Google+ (22.8%), Tumblr (6.1%), Quora, Hornet (1.8% each), Research Gate, Academia.edu, Slack, Grindr, Last.fm and Badoo (0.9% each). Some instant message apps, like Whatsapp (2.6%) and Snapchat (4.4%), were also mentioned.

106 respondents declared themselves cis persons and 8, trans. In the trans group, there were 3 men (37.5%), 2 bigender trans (25%), 2 gender-fluid (25%) and 1 woman (12.5%). As to the sexual orientation, 3 were homosexual (37.5%), 2 heterosexuals (25%), 2 bisexuals (25%) e 1 pansexual (12.5%). In the cis group, 60 are men (56.6%) and 46, women (43.4%). Besides, 52 consider themselves homosexuals (49.1%), 29 heterosexuals (27.4%), 22 bisexuals (20.8%), 2 pansexuals (1.9%), and 1 asexual (0.9%).

We acknowledge the common-sense stereotype that trans people are “overly homosexual,” and that by considering sexual orientation only of cisgender people, one might reproduce this misconception. However, due to the small amount of trans respondents, we were not able to detect differences in perception across different sexual orientations, therefore trans population was analyzed as a single group. Results for cis pansexual and asexual cis groups are not presented due to the small participation and the lack of open answers, which might have pointed to specific demands. We again advise researchers to consider such groups separately in studies with greater samples. Proportion of each group in the final population is presented at Fig. 1.

46 of the respondents were between 18 and 22 years old (40.4%), 52 between 23 and 30 years old (45.6%) and 16 over 30 (14%). Finally, 16 said they use social networks between 1 and 3 weekly hours (14%), 28 between 3 and 7 hours (24.6%), 27 between 7 and 15 hours (23.7%) and 43 more than 15 hours (37.7%).

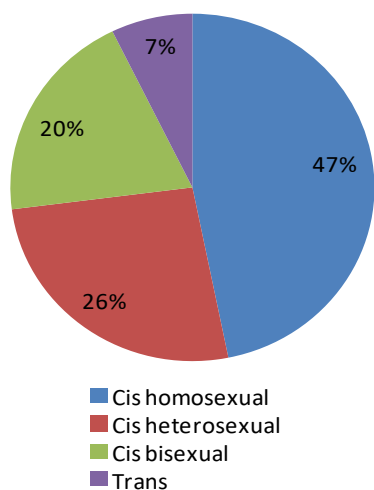


Fig. 1 – Proportion of each group taken into account

B. Oppressions at the interface

42 respondents (36.8%) said they had already noticed some type of oppression in systems interface elements - 4 trans (50%), 5 cis heterosexuals (17.2%), 18 cis homosexuals (34.6%) and 13 cis bisexuals (59.1%). Which percentage of each one of these answers chose each vehicle of oppression is presented at Fig. 2: 2 cis heterosexuals (40%), 2 cis homosexuals (11.1%), and 4 cis bisexuals (30.8%) chose improper text. Form fields were mentioned by 4 trans (100%), 3 cis heterosexuals (60%), 18 cis homosexuals (100%) and 4 cis bisexuals (95.2%), and graphic elements for 2 cis heterosexuals (20%), 3 cis homosexuals (16.7%), and 4 cis bisexuals (21.4%).

40 answers (95.2%) mentioned absent or improper form fields; 9 (21.4%), graphical elements such as text, colors, profile images, buttons, and 8, offensive or improper labels (19%). All answers from trans population included absent or improper form fields.

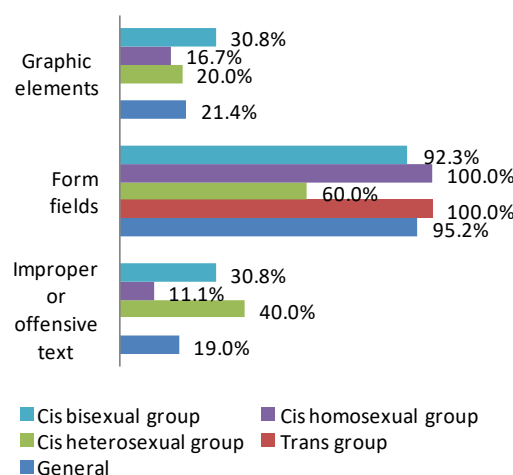


Fig. 2 – Proportion of each group that perceived oppressions in each element

In the extra details, other issues were absence of enough options of gender identity or sexual orientation, and the use of “sex” instead of “gender” as label²:

“Most social networks use the word “sex” and there are only the options “male” and “female.” It should be “gender” and the field should be open, so the person could fill it in with the gender she identifies with” (P60); “Many involve only two genders, or yet three sexual orientations.” (P85)

Apart the aforementioned nature/culture ontological debate, “sex” refers to the assignment made at birth, and “gender” to the individual identification. As Kannabiran [33] describes, the networks request for the “sex” input is a request of a physical attribute description, while other fields in profile relate to socio-cultural stances. Besides this incoherence in the interface, asking for the sex of a trans person may trigger bad memories or feelings.

Foucault saw discourse as a tool for inquiring power relations, since regimes of meaning-making are built in and as discourse, (re)producing knowledge and, thus, power [23]. Based on Foucault’s theory, Kannabiran [33] presents an analysis of further consequences of preventing users from properly expressing gender. Kannabiran notes that the lack of

² All presented statements are translations made by the authors from Portuguese original comments.

such functionalities is also a denial of discourse power for users to express non-binary gendered subjectivities, which might prevent non-binary trans users from having meaningful interactions within the system. It is a systematical structure that denies agency for some users, while allowing it to others.

Some networks, as Flickr, still let only binary gender identity options available. Facebook sign up also contains only two options, although others are made available in the profile editing page. Some people also pointed out the presence of stereotypes in graphical elements:

“It’s not actually LGBT-phobic, but gender binarism is always perpetuated: from always using masculine adjectives (an issue of our idiom) to the imposition of patterns in the generic profile pictures, for instance.” (P113)

Indeed, when user does not upload a profile picture, many social networks opts to include a generic image. For instance, Twitter exhibits the image of an egg, while Google+ and Facebook display the silhouette of a person. By doing this, some stereotypes might be used, such as associating women to long hair and men to short hair. Consequently, improvement suggestions mentioned the expansion of options for gender identity and sexual orientation. Some also mentioned the creation of a communication channel with LGBT population in order to get information directly from this group:

“Social networks should create mechanisms and work groups who’d aim to talk with the LGBT community in order to incorporate its countless suggestions.” (P42)

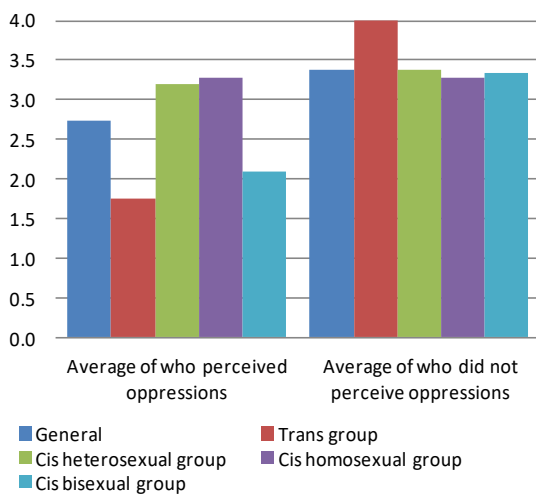


Fig. 3 – Average of grades given by each group

To include real users in the design process is a concern of some methodologies in HCI, such as the Participatory Design, and, in this case, a demand of some users themselves. In fact, researchers and developers should pay a special attention to this and be able to properly choose groups to work with and consider them in across the phases of development and support. Some answers also questioned the need of informing gender. Some networks, as Twitter, Vine, LinkedIn, and Tumblr do not require so.

In the end, we asked a grade, from 1 to 5, for current interfaces with respect to the presence of LGBT-phobic elements. 88 respondents gave a grade. When considering just who noticed oppressions, the average was 2.74 (sd = 0.96) and, for those who had not noticed, 3.37 (sd = 0.97). Among the trans

group, values are 1.75 (sd = 0.96) for those who perceived oppressions and 4 (sd = 1) for who did not. Amid the cis heterosexual population, 3.2 (sd = 0.45) for those who perceived oppressions and 3.38 (sd = 1.09) for who did not. Cis homosexual population who has perceived gave 3.28 (sd = 0.57), and who has not, 3.29 (sd = 0.9). Finally, the bisexual population who perceived gave 2.08 (sd = 1.08) and, who did not, 3.33 (sd = 1.03). General grades were 2.74 (sd = 0.96) for those who perceived and 3.37 (sd = 0.97) for those who did not. All grades are presented at Fig. 3.

Those who did not perceive a situation of discrimination gave a greater grade. There was bigger difference between grades of those who have and have not perceived among the trans and cis bisexual groups. Besides, grades from cis homosexual and heterosexual populations were not very different from each other. The most frequent complaint was the absence of gender identity or sexual orientation options.

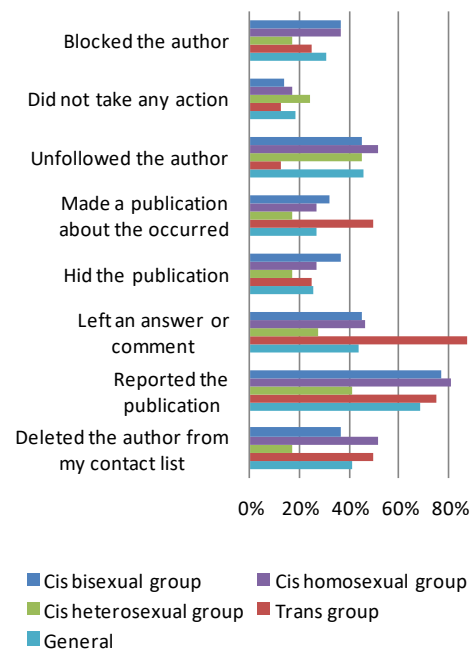


Fig. 4 – Percentage of response actions taken by each group

C. Oppressions in user content

All respondents affirmed they had already seen some oppression in user content:

“It’s hard to talk about one situation, because LGBT-phobic content is so vastly broadcasted that it’s hard to get one single day without coming across plenty of prejudiced posts and comments.” (P85)

The action taken in response by each population is represented in Fig. 4. To report the publication was the preferred action for cis homosexual (80.8%) and bisexual (77.3%) groups. Cis homosexual and trans populations opted more to exclude than to block authors; the other populations chose such options equally. The preference for excluding was alike the portion of those who prefer to write answers, except for the trans group. Trans population preferred writing answers, reporting, excluding the author and writing posts (50% each).

When asked to give a grade to the efficiency of these mechanisms, cis heterosexual group gave an average of 2.14 (sd = 1.03), cis homosexual group, 2.31 (sd = 1.02), cis bisexual,

2.09 (sd = 0.97), and trans, 1.25 (sd = 0.46). The low grade of this last group explains the preference for more drastic actions. General grade was 2.16 (sd = 1.00). All grades are presented at Fig. 5.

58 respondents (50.87%) wrote an improvement suggestion. Among them, 45 improvement suggestions (77.6%) mention faster and more efficient assessment of reports or harsher punishments. The answers suggest that many reports are ignored. Some suggest forwarding the reports to responsible government institutions:

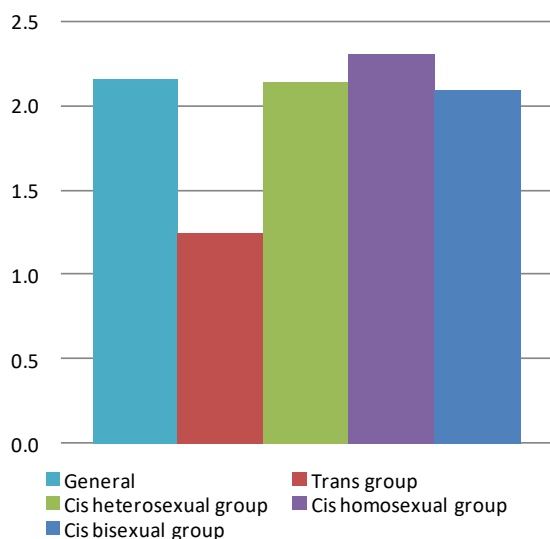


Fig. 5 – Average of grades by each group

“To read carefully the reports. Much explicit LGBT-phobic content is reported, but the answer usually is that there is nothing wrong.” (P53); “Facebook rarely removes publications that I report as prejudiced. I’ve never reported in other networks. There should be a bigger/better prepared team to deal with publications report, also providing assets for police to investigate such situations.” (P3)

Content removal depends on subjective evaluation of moderation teams and reflects a modern debate about freedom of expression limits. As systems reflect the developers’ personal expectations, content review is subject to teams’ own expectations. Some respondents, aware of that, stated this concern in the answers. However, it is important to remember that equalitarian treatment, independent of private questions such as gender and sexual orientation is also a right provided by Brazilian law [16].

The controversial approach taken by Facebook to deal with hate speech has implications in other social areas as well. A recent example is the dialogues between Germany’s chancellor and Facebook’s CEO to eliminate racist and xenophobic content in the media [10]. In times of social media intense use, we should not see the virtual social life as a separate, distant reality; bigoted content is not only a consequence of prejudice outside Internet, but also an intensifier of it. Content moderators should be aware that the omission in excluding hateful speech does not only affect individuals, but also reinforce social oppressions outside the media. Consequently, it is needed to use some reflection and think about policies and values involved when classifying content as non-offensive, based upon a misleading claim of freedom of expression.

Other answers include broadcasting of educational content or suggest that current report mechanisms are not clear or need to be more specific. The broadcast of educational content may be a complementary but important strategy to fight LGBT-phobic activity, since social media plays a big role in citizenship formation:

“Relevant and clarifying content that fight the LGBT-phobic thinking” (P69); “To allow reports.” (P59); “Specific report mechanisms to such situations.” (P22).

Open answers highlighted concerns with the reporting process of user content. All suggestions mentioned some step of the revision process – the availability of report mechanisms, the efficiency and partiality of the analysis, or the severity of punishment. It is also remarkable that all volunteers stated to have seen hateful user content in social media.

D. Oppressions in automatic content

49 respondents (43%) have already noticed discrimination in automatic content, 5 trans (62.5%), 10 cis heterosexuals (34.5%), 22 cis homosexuals (42.3%), and 12 cis bisexuals (54.5%). Cis heterosexual population showed less perception of this kind of situation.

The type of content flagged by each population is presented in Fig. 6. Suggestions of pages are the most frequent type for all populations, except the cis heterosexual. For this, the most frequent is the “hot topics,” that is, popular posts or hashtags. Cis homosexual and bisexual populations perceived more situations of this kind, when compared to the others. Some were described:

“It was an event created to support a heterosexual pride parade and it contained quite offensive posts.” (P61); “I saw an extremely transphobic person among suggestions of people I might know in Facebook. Before excluding it, I reported their profile.” (P65); “The most frequent are pages of people whom I have common friends with that advocate for hate speech toward minorities [...] and advertising that propagate LGBT-phobic speech, typical of publicity, such as the sale of xxx for ‘true men’... Or, in the Youtube case, at the suggested videos aside.” (P86)

Answers suggest that developers should reflect upon even the chosen algorithms, in order to assure that it does not only work as expected, but that no subjective harm is caused. Also, even a simple and seemingly naïve functionality of suggesting friends may cause harmful experiences.

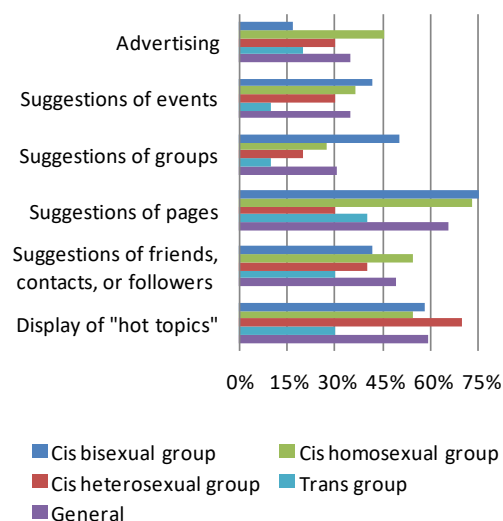


Fig. 6 – Percentage of content type signaled by each group

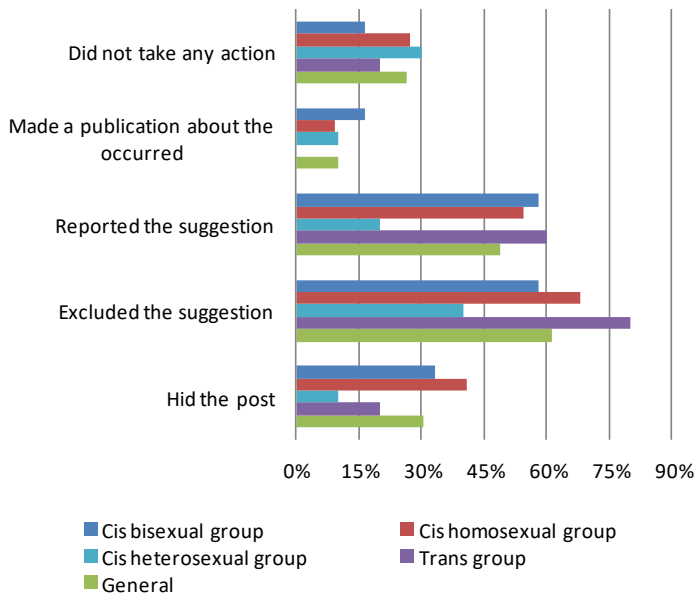


Fig. 7 – Percentage of response actions taken by each group

Cis heterosexual population presented lesser preference for direct actions than the others, and more inclination to not taking actions. The exception was to write a post, chosen more times by the cis heterosexual group than by the homosexual. To report and to exclude the suggestion were the main actions of all populations, followed by hiding the post. These are the sole mechanisms that provide the user with an active role in the content treatment, which may explain the predilection. The percentage of actions taken by each group in response is presented at Fig. 7.

To increase the accuracy of algorithms that produce automatic suggestions with better heuristics or human supervision was also suggested:

“User should have greater control and clarity about the way social network produces page suggestions and be provided with an option for ranking, consciously (thus, with user on control), pages s/he would like to see the most or the least, and which pages or users should be taken as models for suggesting new pages, friends, and advertising.” (P86); “More rigid algorithms with automatic suggestions in a way that intolerance does not get broadcasted (it should not even be present in the media channels).” (P60)

The possibility of configuring pages user would like to see was mentioned in 9 (32.1%) of the 28 given suggestions. Facebook, the most used social media, in fact has a page where user can see subjects the system believes that could interest them. The page is located at the account preferences under the label “Ads,” and allows user to remove categories of advertisement that appears in the profile. However, it is not possible to choose which advertisements the user would like to see or remove completely. The suggestions are very alike those given in previous section, such as ranking users and implementing detection algorithms.

Plenty volunteers mentioned actions related to broadcasting of user or sponsored content. Changes in the terms of use, in the partner policy and harsher policies were mentioned:

“To better evaluate partners (in the case of sponsored content). To have a harsher policy regarding LGBT-phobia. To

put under automatic evaluation groups or pages with certain names (for instance, those containing the word “pride,” etc.)” (P5)

8 respondents (28.57%) made similar suggestions. We highlight again the fact that the prevention to LGBT-phobia cannot be restricted to any particular phase of a project. Legal and financial decisions should also be made having the prevention to prejudiced content in mind.

Grades from 1 to 5 were given to the mechanisms efficiency. Among the cis heterosexual population, the average of who already perceived oppressions was 2.40 (sd = 1.17), and of who did not, 2.67 (sd = 1.50). Among the cis homosexual group, average of who already perceived oppressions was 1.95 (sd = 0.95), and of who did not, 2.70 (sd = 1.25). The cis bisexual group that already perceived gave an average of 1.67 (sd = 1.15), and that did not, 2 (sd = 1). Only one trans volunteer who have not perceived oppressions gave a grade and, therefore, this subgroup average was not considered. For those who have, grade average was 1.80 (sd = 0.84). In general, average was 1.96 (sd = 1.04) and 2.63 (sd = 1.28) for those who perceived and who did not, respectively. Grades are presented in Fig. 8.

The cis bisexual population gave lower grades in both cases, with a difference of 0.33 between each subgroup. The greatest variation was among the cis homosexual population, where those who perceived oppressions gave an average 0.75 lesser than the opposite subgroup. As in the user content case, averages did not reach 2.75, suggesting respondents’ dissatisfaction with the currently provided mechanisms.

E. Privacy

72 respondents (63.2%) said to have already used some mechanism to preserve information about sexual orientation or gender identity. Theoretically, cis heterosexual people are less subject to have issues with exposing sexual orientation or gender identity. Nevertheless, many of cis heterosexual volunteers gave some opinion about this subject. Fig. 9 depicts the use rate of privacy mechanisms that each population uses.

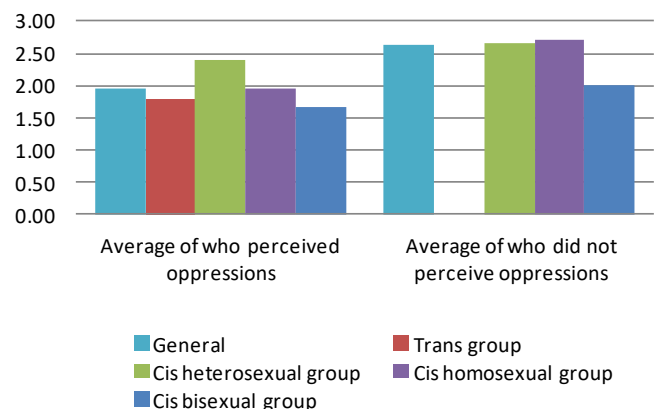


Fig. 8 – Average of grades given by each group

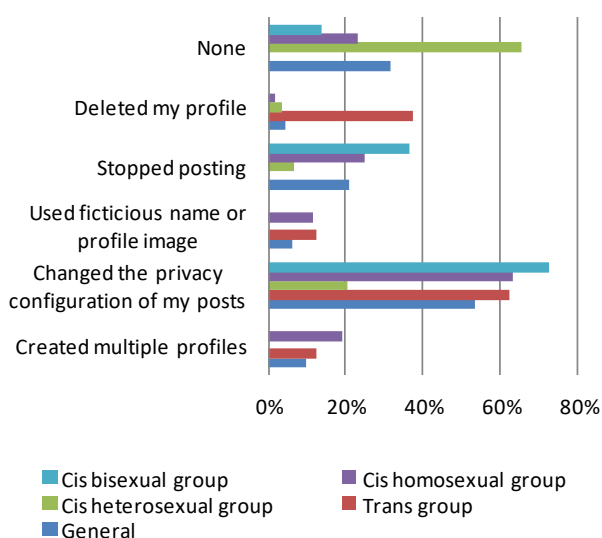


Fig. 9 – Mechanisms used by each group

In general, to change the privacy configuration was the preferred mechanism of volunteers. 37.5% of the trans group has already opted to delete the profile, showing a bigger proclivity for this option when compared to other groups (1.9% of cis homosexuals and 0% of cis bisexuals chose it). On the other hand, no trans has given up posting, while 36.4% of the cis bisexual and 25% of cis homosexual population have.

A possible explanation for the profile deletions is the fact that the process of gender transitioning³ in social networks possibly requires actions that expose them more, such as updating the profile image, the gender, and the name [30]:

“I’m a male trans, so when I came out, I excluded my old profiles and made new ones.” (P65)

Other mentioned reasons for using any mechanism were fear of suffering professional disadvantage, lack of personal acceptance, and intention of avoiding fights and disrespectful comments from social contacts:

“Many companies evaluate, before hiring, people’s social network profiles. Unfortunately, I’ve heard Human Resources people telling they’ve given up hiring some people based on LGBT-related content posted.” (P9); “In order to avoid the conservatives of my family and occasional unknown people.” (P50); “Just while I still didn’t accept and was not entirely comfortable with myself, I created a fake profile.” (P10)

A research from 2015 showed that 11% of Brazilian companies would consider hiring a LGBT candidate only for jobs with low degree of visibility, and 7% would not hire a LGBT at all [47]. A similar study showed that UK applicants who openly disclose their sexual orientation are approximately 40% less likely to be offered a job interview [2]. The lack of specific law protection towards LGBT people is not a concern specific of Brazilian population. Even after legalizing same sex marriage, in 2016, almost 30 US states still allow companies to fire their employees for being LGBT [42].

A type of privacy mechanisms improvement suggested was related to being forced to give personal data to the network:

³ “Transitioning” refers to the time when some trans people afford legal, social, or physical changes in order to better suit their gender expression. One should not see transitioning

“Facebook and Google+ should not obligate users to give them the same name as in my legal documents.” (P93); “To stop accepting reports of “wrong” names, because it’s harmful for people updating their legal names” (P57); Some networks, as Facebook, demand the use of your “real” name, that is, the name that is in your ID. But it’s difficult for trans people (binary or not) to change their legal documents.” (P54)

Many users do not feel comfortable in using their legal names in the network, especially if they are trans people who have not updated legal documents or concerned with privacy or artistic work advertisement. Legal names usually reflect the sex assigned at birth and which children are registered with. Since the childhood of many trans people is marked by psychological, physical, behavioral, and social repression of gender identity prevailing cisgenerativity as the right and natural one, many occasions may trigger bad feelings, like the use of wrong pronouns or the use of legal name. Besides not matching trans people identity, these may be used by bullies to expose and mock individuals. Since the update of documents demands legal actions, this kind of policy may force several trans people to use and be referred to by undesired names. P57’s suggestion also reveals another flaw: in some networks, users can report profiles for using so called fake names, allowing deceitful users to report trans people profiles.

Other controversial aspects of this exigency relate to personal advertisement, such as polemics involving drag queens in 2014. Many artists claimed to have had their Facebook accounts deleted for using allegedly fake names, and therefore violating the clauses of being real persons. Although Facebook and Google+ allow the creation of pages, many users would like to be able to use personal profiles to interact with their public. To obligate users to use a media mechanism instead of another may be seen as other example of uneven exercise of power by networks.

Many other examples can be given to justify the choice of not using the legal name, such as abuse victims or persons who would just like to be anonymous in the network. Some Native Americans also had their Facebook account deleted in this period [40]. The network later posted an apology request for the crisis, promising to tone down the names policy [17]. An updated followed in December 2015 [21], requiring users to go through more steps to report someone, and giving reported users the possibility of justifying the use of the name and access the account for more 7 days, while name is being verified (previously, the accounts were deleted without prior notice). The website still reinforced the use of pages for professional personas. Google+ abandoned the demand of legal name in 2014 [28].

Another kind of suggestions is related to the lack of control of exposition of some data. For instance, name and profile picture, are typically public:

“I wouldn’t like my profile picture to be available to every Facebook user, for example, because a hurtful user can simply take a screenshot and use it freely.” (P35)

Finally, it was mentioned the difficulty of using privacy mechanisms, such as friend lists. Other studies also bring difficulties in configuring privacy [1, 41, 50, 51].

process as a gender change - gender identity remains the same, but gender expression is altered.

“A system to index users who should (not) see some content in a more straightforward fashion, like Facebook’s friends list, but easier to add members (e.g., a button to add a friend to a list in the moment you accept a friendship request, as in G+ circles).” (P50)

99 respondents gave a 1 to 5 grade to the efficiency of available privacy mechanisms. By considering just those who already used some, general average was 3.41 (sd = 1.10), and, for who did not, 2.79 (sd = 1.17). The whole trans population had already used some mechanism, totaling an average of 3 (sd = 0.82). Among the cis heterosexual population, we got 3.80 (sd = 0.84) for who used a mechanism, and 3.19 (sd = 1.03) for who did not. The homosexual cis population who used gave an average of 3.28 (sd = 0.57), and who did not, 3.29 (sd = 0.9). Finally, the cis bisexual population who used gave 3.11 (sd = 1.37), and who did not, 1.67 (sd = 0.58). General averages were 3.41 (sd = 1.10) and 2.79 (sd = 1.17) for those who used and did not use such mechanisms, respectively. All grades are presented in Fig. 10.

Respondents who never used some mechanism gave a lower grade than those who already did, within the same population, except for the cis homosexuals:

“I never used anything to protect my sexual orientation, but I have friends who have trouble with filtering friends and posts so that work colleagues do not know their orientation” (P43)

Arguably, respondents who never used any mechanisms graded based on the feeling that people who use them may have difficulties with the current functionalities. Although some mentioned needs of improvements in the current mechanisms, the volunteers in general appeared to be able to correctly configure privacy. Since the volunteers were mostly university students, we may presuppose a greater easiness of use of mechanisms and, therefore, a high grade.

F. General grades

The respondents were asked to give grades from 1 to 5 to current Internet systems, considering the LGBT-phobia threat. Average was 1.50 (sd = 0.76) within trans population, 2.52 (sd = 1.33) within cis heterosexual population, 2.21 (sd = 0.95) within cis homosexual population, and 2.07 (sd = 1) within the cis bisexual. General average was 2.28 (sd = 1.21).

Next, they were asked about the importance that proper mechanisms for fighting and preventing LGBT-phobia have in the decision of using or not a system. This was made via a 1 to 5 Likert scale, where 1 is “regardless” and 5 is “essential.” Average was 3.38 (sd = 1.19) for trans population, 3.21 (sd = 1.54) for the cis heterosexual population, 3.83 (sd = 1.32) for the cis homosexual population, and 3.27 (sd = 1.28) for the cis bisexual population. In the following discussions, the importance of such mechanisms in the decision of using a system will be referred to as “importance of mechanisms.” General average was 3.51 (sd = 1.37).

Finally, it was asked about the comfort users feel when using systems with no proper LGBT-phobia prevention or fight mechanisms, via a Likert scale from 1 (very uncomfortable) to 5 (very comfortable). Average was 2.38 (sd = 1.41) for the trans population, 2.24 (sd = 1.12) for the cis heterosexual population, 2.88 (sd = 1.36) for the cis homosexual population, and 2.38 (sd = 1.40) for the cis bisexual population. Grades are presented in Fig. 11. In the following discussions, comfort felt when using

systems without such mechanisms will be referred to as “comfort of use.” General grade was 2.55 (sd = 1.32).

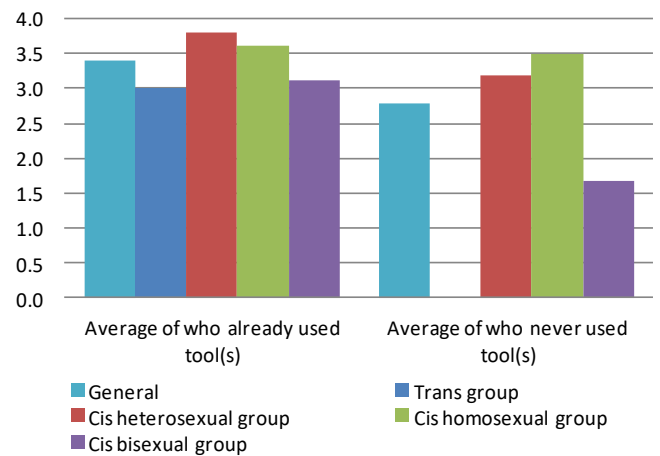


Fig. 10 – Average of grades given by each group

Cis homosexual group gave the greater importance to the mechanisms, followed, in order, by the trans, cis bisexual, and cis heterosexual groups. This is the same ordering of the comfort of use grades. This ordering might not sound compatible with the previous result, since it was expected for groups that place more importance on such mechanisms to feel more uncomfortable with their absence. However, when checking the absolute values, it is noticeable that no grade is greater than 3, the neutral grade. We conclude that it is consensual that some discomfort is caused by the absence of proper mechanisms.

Even though not required, 51 volunteers justified the general grades. Among them, 44 (86.27%) explicitly mentioned the report mechanism as main justification, which reinforces the urgency of better conceiving and providing it:

“Many reports are ignored.” (P75); “Most analysis is superficial and posts are rarely excluded, even when many people report them.” (P57); “Facebook has a troublesome pattern of posts removal, being misogynist many times.” (P38).

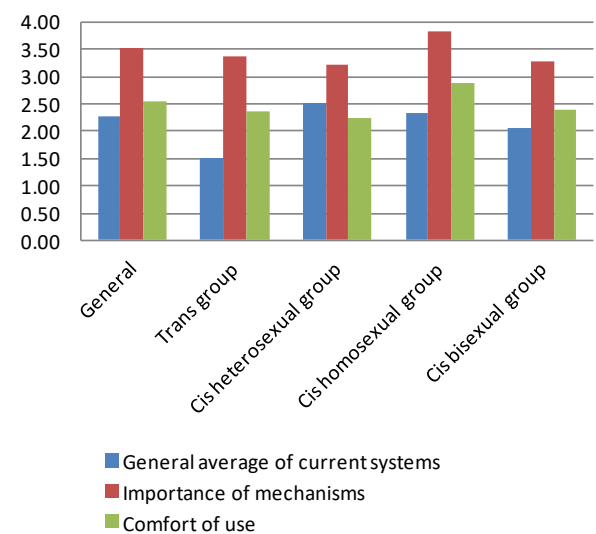


Fig. 11 – Average of grades given by each group

Trans population gave a lower general grade, albeit it was not the group who gave greater importance to the mechanisms. It might indicate these participants were more critical with current systems, which may lower the importance of

mechanisms. Yet, the grades of importance were greater than 3 within all groups. It might point that more proper mechanisms could improve the experience of users.

V. DISCUSSION

Results presented in this study allow us to better understand how social networks reproduce oppressions based on sexual orientation or gender identity. This role may be active, such as oppressions in interfaces, perceived mainly in sign up forms and in personal information disclosures, or passive, not debating discriminatory content or yet broadcasting undesired content via imprecise algorithms. Open answers suggest that the process of report analysis should include demands from the LGBT community. Our results also suggest that cis heterosexual people perceive less oppression in systems, and, therefore, more diverse groups should be considered.

Answers also depict, as in other studies, the seriousness of social networks in the self-identification process, which is directly linked to concerns with security and privacy. Many respondents also question the need of requiring and publicly displaying sensible personal information.

We also observed dissatisfaction in the studied population concerning the current status of Internet systems. Moreover, the presence of proper fight and prevention of LGBT-phobia mechanisms impacts the decision of using a system, and their absence provokes discomfort. Consequently, such functionalities must be considered during the building of interfaces, so that we can create genuinely Web spaces for all.

Our research reinforced that mechanisms of exclusion based on cis-heteronormativity are present in digital systems user interfaces. More than that, the ways that the user can be affected by this bias are diverse – it ranges from functional requirements to legal matters. Whether by denying discourse power for expressing gender subjectivity, broadcasting bigoted advertisement, not deleting hateful speech, or reproducing physical, behavioral or linguistic stereotypes, system interfaces can reproduce and reinforce social oppressions.

Finally, the survey got 114 answers in 21 days, with little announcement. Among the volunteers, some less known identities and orientations were declared. This suggests there is a population up to discuss improvements to current Internet systems and have their needs heard.

A. Suggestions for future works

Subjects related to gender and sexuality are gaining more space within research in HCI, but there is still no systematic practical study with concerns to design of interfaces, that consider aspects of gender identity and sexual orientation, as well as their social and political implications. Indeed, there are accessibility and usability guidelines [36, 52], but gender identity and sexual orientation have not been considered. Results from this study shed light on LGBT-phobia situations assisted by the digital system interface, and identified elements of interaction that reproduced them, with possible solutions. To identify such elements may provide a ground for broader discussion about gender identity and sexual orientation in design.

Reflexivity, that is, the questioning of their own values, must be in developers' agenda [12, 34], and also is a responsibility of researchers [33]. One of the greatest contributions of post-war philosophy is the call for reflection in all values that appear natural or normal. To apply the reflexivity

properly requires breaking any social determinism that may fit people in fixed roles. When talking about gender and sexuality, we must detach from the common idea that puts cisgender heterosexual men as the norm, and any different configuration as the other, the exception.

It is also necessary to have a good comprehension of our society nowadays. Though sexuality still remains a strong taboo, previously invisible identities begin to gain space in discourse. Universal claims about identity, behavior, and expectations are rarely going to express correctly individual traces. To proper balance the value given to divergent attributes is essential to not propagate uneven privileges, rights, and opportunities.

Participatory theories seem to be well-suited for considering the experience of excluded people as core of inquiry and changing processes. There is no other way of adding such concerns to interface building, if not through the attention to what people affected by them have to say. Processes of design and social formation are deeply related and co-constructed [4], which stress the urgency of including LGBT people when considering users and their needs.

B. Work limitation

The biggest limitation of this research is related to the volunteers' cut – survey was published in university discussion groups, which suggests a homogeneous scholar degree. Besides, it reflected the fact that a very small amount of the Brazilian trans population is currently enrolled in universities, although there are no official statistics about it.

Since it was not on-site, the questionnaire attendance may have caused some questions not to be understood and some details not to be provided. Some observations hereby presented were connected with known facts outside virtual systems, but we acknowledge a limitation on voice provided for volunteers to explain their issues. An extension of the work, including on-site interviews or focal groups would allow the research to bring up other relevant elements to the field. Nevertheless, the option of making an online form allowed a big amount of answers in a short timeframe, proving itself suitable to the exploratory nature of this study.

VI. CONCLUSION

To disregard the influence of gender identity and sexual orientation in the processes of design and use of digital systems can impact the user experience and cause social and political implications. This work approached the subject aiming to identify the perception that users have of reproduction of oppressions based on gender identity or sexual orientation via their interfaces. Results presented some situations where these oppressions occur and gave some suggestions to prevent and eliminate them. Moreover, we concluded that the studied group has a consensual discontentment towards current social networks, and that this can impact the decision of using a network and in the feeling of comfort.

This study aimed at a specific cut regarding social networks. Future works may involve other functionalities and specific populations. Besides, other components of human individuality may be used as object of study, from an oppression inquiry point of view; for instance, studies regarding racism or sexism would be valuable to the construction of more inclusive systems and, thus, contribute to a more open-minded and fair society.

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REFERENCES

- [1] A. Acquisti, R. Gross, "Imagined communities: awareness, information sharing, and privacy on the Facebook," *Privacy Enhancing Technologies*. Springer (2006), 36–58.
- [2] Anglia Ruskin University, "Gays and lesbians face CV bias – study," 2014, retrieved May, 2015 from <https://goo.gl/tafSGs>.
- [3] S. Bardzell, J. Bardzell, "Towards a feminist HCI methodology: social science, feminism, and HCI," *CHI 2011*, ACM Press, 2011, 675–684.
- [4] S. Bardzell, "Utopias of participation: design, criticality, and emancipation," *CHI 2011*, ACM Press, 2011, 189–190.
- [5] J. A. Bargh, K. Y. A. McKenna, G. M. Fitzsimons, "Can you see the real me? Activation and expression of the 'true self' on the Internet," *Journal of Social Issues*, Volume 58, Issue 1. Springer, 2002, 33–48.
- [6] R. Bennett, Plus.google.com, 2014, retrieved May, 2015 from <https://goo.gl/Ln9xZ8>
- [7] R. Bivens, "The gender binary will not be deprogrammed: ten years of coding gender on Facebook," *Social Science Research Network*, 2014.
- [8] B. M. Blodgett, H. Xu, E. M. Trauth, "Lesbian, gay, bisexual and transgender (LGBT) issues in virtual worlds," *ACM SIGMIS Database* 38, 4, ACM Press, 2007, 97–99.
- [9] B. J. Bond, V. Hefner, K. L. Drogos, "Information-seeking practices during the sexual development of lesbian, gay, and bisexual individuals: the influence and effects of coming out in a mediated environment," *Sexuality & Culture*, Volume 13, Issue 1. Springer US, 2009, 32–50.
- [10] C. Brennan, "Angela Merkel overheard confronting Mark Zuckerberg over the need to 'do some work' about racist posts on Facebook," 2015, retrieved May, 2015 from <https://goo.gl/PNn6uv>.
- [11] S. Breslin, B. Wadhwa, "EnGendering interaction design," *iUSER 2014*, IEEE, 2014, 292–295.
- [12] S. Breslin, B. Wadhwa, "Exploring nuanced gender perspectives within the HCI community," *IndiaHCI 2014*, ACM Press, 2014, 45.
- [13] J. Butler, "Gender trouble: feminism and the subversion of identity," 1999, Routledge.
- [14] J. Butler, "Sex and gender in Simone de Beauvoir's *Second Sex*," *Yale French Studies*, 72, "Simone de Beauvoir: witness to a century", Helen V. Wengel (ed.), 1986, 35–49.
- [15] B. R. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, and G. Vanderheiden, "The principles of universal design," Version 2.0, 1997, retrieved May, 2015 from <https://goo.gl/uW6mqn>.
- [16] Brazilian Constitution, articles 3 (item IV) and 5 (caput and item I). 1988.
- [17] C. Cox, Facebook.com, 2014, retrieved May, 2015 from <https://goo.gl/2Bq9Vz>.
- [18] S. de Beauvoir, "Le Deuxième Sexe," 1986, Gallimard Education.
- [19] Facebook Diversity, Facebook.com, 2014, retrieved May, 2015 from <https://goo.gl/ctdwQo>.
- [20] Facebook Diversity, Facebook.com, 2015, retrieved May, 2015 from <https://goo.gl/TSf5hv>.
- [21] Facebook help, "What names are allowed on Facebook?," 2016, retrieved May, 2015 from <https://goo.gl/ZxSwHv>.
- [22] M. Flanagan, D. C. Howe, and H. Nissenbaum, "Embodying values in technology: theory and practice," *Information Technology and Moral Philosophy*, J. van den Hoven, J. Weckert (eds.), Cambridge University Press, 2008, 322–353.
- [23] M. Foucault, "L'archéologie du savoir," 1969, Gallimard.
- [24] M. Foucault, "Surveiller et punir: naissance de la prison," 1993, Gallimard.
- [25] M. Foucault, "L'histoire de la sexualité I – La volonté de savoir," 1994, Gallimard.
- [26] G. Freeman, J. Bardzell, S. Bardzell, S. C. Herring, "Simulating marriage: gender roles and emerging intimacy in an online game," *CSCW 2015*, ACM Press, 2015, 1191–1200.
- [27] Gay Group from Bahia (GGB). "Assassinato de homossexuais (LGBT) no Brasil: Relatório 2014," 2014, retrieved May, 2015 from <https://goo.gl/ETfFpP>.
- [28] Google+ post, Plus.google.com, 2014, retrieved May, 2015 from <https://goo.gl/bzeS6r>.
- [29] D. F. Greenberg, "The construction of homosexuality," 1988, University of Chicago Press.
- [30] O. L. Haimson, J. R. Brubaker, L. Dombrowski, G. R. Hayes, "Disclosure, stress, and support during gender transition on Facebook," *CSCW 2015*, ACM Press, 2015, 1176–1190.
- [31] F. Haugen. July 12, 2011 - Google+ Update. Youtube.com, 2011, retrieved May, 2015 from <https://goo.gl/Bqd6Ai>
- [32] C. Huff, J. Cooper, "Sex bias in educational software: the effect of designers' stereotypes on the software they design," *Journal of Applied Social Psychology*, 17, 1987, 519–532.
- [33] G. Kannabiran, "Themself: critical analysis of gender in Facebook," *CHI workshop paper*, 2011.
- [34] G. Kannabiran, J. Bardzell, S. Bardzell, "How HCI talks about sexuality: discursive strategies, blind spots, and opportunities for future research," *CHI 2011*, ACM Press, 2011, 695–704.
- [35] G. Kannabiran, M. G. Petersen, "Politics at the interface: a Foucauldian power analysis," *NordiCHI 2010*, ACM Press, 2010, 695–698.
- [36] S. J. Koyani, R. W. Bailey, J. R. Nall, "Research-based web design & usability guidelines," retrieved May, 2015 from <http://guidelines.usability.gov/>.
- [37] L. Kvasny, "Triple jeopardy: race, gender and class politics of women in technology," *SIGMIS CPR 2003*, ACM Press, 2003, 112–116.
- [38] D. Las Casas, G. Magno, E. Cunha, M. A. Gonçalves, C. Cambraia, V. Almeida, V., "Noticing the other gender on Google+," *WebSci 2014*, ACM Press, 2014, 156–160.
- [39] A. Light, "HCI as heterodoxy: technologies of identity and the queering of interaction with computers," *Interacting with Computers* 23, 5, 2011, 430–438.
- [40] O. McAteer, "Native Americans booted off Facebook for having 'fake' names like Creepingbear," 2015, retrieved May, 2015 from <https://goo.gl/KrdqRQ>.
- [41] M. Madejski, M. Johnson, S. M. Bellovin, "The failure of online social network privacy settings," *CUCS-010-11*, 2011, retrieved May, 2015 from <https://goo.gl/QUZJc>.
- [42] T. McKay, "One map shows where you can still be fired for being gay in 2015," 2015, retrieved May, 2015 from <https://goo.gl/4iWGjF>.
- [43] J. Osofsky, T. Gage, "Community support FYI: improving the names process on Facebook," 2015, retrieved May, 2015 from <http://newsroom.fb.com/news/2015/12/community-support-fyi-improving-the-names-process-on-facebook/>.
- [44] A. Rich, "Compulsory Heterosexuality and Lesbian Existence," 1981, Onlywomen Press Ltd.
- [45] M. Rossi, M. Novaes, "Os direitos básicos aos quais transexuais e travestis não têm acesso," 2015, retrieved May, 2015 from <https://goo.gl/Yv7Bs4>.
- [46] G. Rubin, "The traffic in women: notes on the 'political economy' of sex," In: "Toward an anthropology of women," *Monthly Review Press*, 1975, 157–210.
- [47] W. P. Sobrinho, "Duas em cada dez empresas se recusam a contratar homossexuais no Brasil," *Carta Capital*, 2015, retrieved May, 2015 from <https://goo.gl/A4SA4f>.
- [48] C. Stephanidis, "User interfaces for all: concepts, methods, and tools," 2001, Lawrence Erlbaum.
- [49] Transgender Europe. "Trans murder monitoring 2015," 2015, retrieved May, 2015 from <https://goo.gl/oxTAZo>.
- [50] Y. Wang, S. Komanduri, P. G. Leon, G. Norcie, A. Acquisti, L. F. Cranor, "'I regretted the minute I pressed share': a qualitative study of regrets on Facebook," *SOUPS*, 2011, article no. 10.
- [51] Y. Wang, P. G. Leon, A. Acquisti, L. F. Cranor, A. Forget, and N. Sadeh, "A field trial of privacy nudges for Facebook," *CHI 2014*, ACM Press, 2014, 2367 – 2376.
- [52] Web Content Accessibility Guidelines (WCAG) 2.0. W3.org, 2008. <http://www.w3.org/TR/WCAG20/>
- [53] L. Winner, "Do artifacts have politics?" In: L. Winner, "The whale and the reactor: a search for limits in an age of high technology," *University of Chicago Press*, 1988, 121–136.
- [54] M. Wollstonecraft, "A vindication of the rights of woman," 1792, Courier Corporation.