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# LGBT+ physicists qualitative experiences of exclusionary behavior and harassment

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## Abstract

This article looks at the qualitative survey responses of LGBT physicists about their experiences of exclusionary behavior and harassment. Of the 324 respondents 71 reported such an experience and gave a qualitative response. Findings indicate that the majority of respondents experienced exclusionary behavior based on their gender expression or being a woman. The behavior came mostly in the forms of verbal comments and social exclusion, with fewer participants reporting physical touching or sexual harassment. These findings indicate the importance of intersectionality when considering experiences in physics and point to the need for more research on and support for LGBT-identified students and professional. As such, the results represent a relevant and important case study in the area.

Keywords: equity, inclusion, diversity, LGBT, gender and sexual minorities

## Terminology

LGBT (LGBQ)	A common acronym that refers to gender and sexual minorities broadly, but specifically encodes lesbian, gay, bisexual and transgender people. The 'Q' stands for queer.
Transgender	A person who identifies their gender opposite of what gender was assigned to them at birth. For example, a person who was assigned man at birth but identifies as a woman in a transgender woman.
Cisgender	People who identify with the same gender they were assigned at birth.
Gender non-conforming	A person whose gender identity or expression does not align with social conventions and expectations.
Race	Social construction of groups based on physical traits which are seen as important (i.e. skin color).

Ethnicity	Refers to shared history and culture (i.e. language, traditions, religion).
Exclusionary behavior	Any behavior that is harassing, shunning, exclusionary, or intimidating directed at an individual.

## 1. Introduction and background

The field of physics education research has done robust work looking at the experiences of women in physics [1–18] with some work focusing on students of color [19–23]. A portion of this literature has examined the harassment experiences of women in physics and addressed issues of chilly climates [2, 24, 25]. However, little to no work has explored the experiences, and challenges, of LGBT physicists or physics students [26, 27]. Within the broader literature the experiences of LGBT STEM scientists and students have been addressed in a small but growing body of literature [28–33].

### 1.1. LGBT persons in STEM

Over the past decade a body of work has begun to emerge focusing on the experience of LGBT persons in the sciences. This has ranged from looking at the experiences of undergraduate students [28, 31, 33] to professionals working as scientists and professors [29, 30, 32]. Of these articles half have been qualitative analyses of survey responses or interviews [31–33] with the other articles using quantitative analyses from survey results [28–30].

Findings from research on students indicate that their LGBT identity is important to them in pursuit of their STEM educations [33]. However, they are often met with blatant and unintentional discrimination [31] which deterred their participation and success in their educations. These negative experiences may contribute to the findings that of over 4000 STEM students surveyed, LGBT students were significantly more likely to not be retained in their majors as compared to non-LGBT students [28].

Similar results were mirrored for faculty and professional scientists. It was found qualitatively that LGBT faculty reported experiences of discrimination due to their LGBT identities, expectations to not express their identities, and thinly veiled hostility [32]. Quantitatively, another survey supported these findings by demonstrating that LGBQ (no transgender participants) STEM faculty were significantly more likely to consider leaving their institutions if they were out about their LGBQ identity as compared those who were not. Further quantitative research on LGBT scientists has also demonstrated a heightened negative workplace climate as compared to their non-LGBT peers [30].

Although additional studies on LGBT stem experiences of harassment and climate could not be found, two papers on gender harassment in physics are germane to the article presented here.

### 1.2. Gender harassment in physics

Two articles have been published documenting the qualitative and quantitative gender harassment experienced by women in physics [2, 25]. The qualitative article investigated the gendered experiences of women in graduate physics and astronomy programs through in-depth in person interviews. Of the 21 participants 16 described such an incident ranging from microaggressions (subtle day to day insults and slights, may be unintentional) through hostile sexism (explicit harassment based on sex which includes sexual advances, almost always intentional) [2]. For the women in this study their experiences had a variety of impacts on their educations, leading some to switch majors or leave the physical campus of their university.

The quantitative study surveyed undergraduate women attending a conference for undergraduate women in physics [25]. Of the 455 surveyed participants nearly 75% reported experiencing sexual harassment ranging from verbal comments, to being repeatedly asked out and unwanted touching. Although the previous qualitative results are not generalizable due to their limited nature, they are proportional to the quantitative findings.

### 1.3. Background conclusion

What emerged from the literature are the concerns and challenges faced by LGBT STEM students juxtaposed to the known harassment experienced by one underrepresented group in physics, women. This suggests that LGBT persons in physics may also face such experiences. The article presented here reports the first such qualitative findings on the experience of exclusionary behavior (EEB) and harassment of LGBT physicists, collected by an online survey.

This paper is the first article in a series of three publications on the APS LGBT Climate in Physics survey. The second and third will focus on the quantitative results of the survey.

## 2. Methodology

The American Physical Society (APS) ad hoc committee on LGBT Physicists (C-LGBT) conducted this research as part of their work. The committee was charged as follows:

*The committee (C-LGBT) will advise the APS on the current status of LGBT issues in physics, provide recommendations for greater inclusion, and engage physicists in laying the foundation for a more inclusive physics community. More specifically, the committee will investigate LGBT representation in physics, assess the educational and professional climate in physics, recommend changes in policies and practices that impact LGBT physicists, and address other issues that affect inclusion.*

The research used a survey instrument distributed globally with both fixed and open-ended questions. The survey methodology is described below.

### 2.1. Survey

The survey instrument was designed using both the literature and expertise of the C-LGBT committee [29, 31, 32, 34] to assess (1) demographics, (2) climate experiences, and (3) persistence. Section 1 was created to look for salient information about the participants such as their gender identity, sexual orientation, race, level of outness and more. Phrasing of the questions was designed around previous LGBT climate research in higher education and the expertise of the committee members [3]. Section 2 was created to understand the personal climate experiences of participants on campus, in the classroom, and in their work places. Please see the LGBT Climate in Physics report for the full survey instrument [26].

### 2.2. Participants

The Institutional review board at the University of Maryland approved the survey, which included a consent question at the start of the survey. Consequently the research was conducted in accordance with the principles outlined in the ethical policies of this journal. The survey was distributed online through snowball sampling. Snowball sampling is a method that asks identified participants to send the survey out to persons they believe should take the survey. Since LGBT people cannot be readily identified across physics, such methodology allowed the greatest reach. In order to begin this snowball effect the survey was

sent out to the LGBT+ Physicists list-serv of ally and LGBT physicists. It was also posted on Facebook in various diversity in physics groups and LGBT STEM groups. The survey was further distributed to various physics list-servs. In all, 324 complete responses were received from LGBT persons. Please see the appendix A for details on the participant demographics.

### 2.3. Analysis

The data analyzed in this article are the qualitative responses to the question ‘*Within the past year, have you personally experienced any exclusionary (e.g., shunned, ignored), intimidating, offensive and/or hostile conduct (harassing behavior) that has interfered with your ability to work or learn on your campus or workplace because of your gender, gender identity, gender expression, sexual orientation, or sexual identity?*’ which was based on previous survey items used to study LGBT persons in higher education [29, 35]. After answering the above question with a yes or no response, participants were asked to elaborate in an open-ended format. In all, 71 total open-ended responses about the EEB were recorded from participants.

Each response was read and qualitatively coded iteratively for two items, (1) the identity target of the EB and (2) the kind of EB [36, 37]. Codes were applied to represent the identity by labeling them as ‘*LGB, women, gender expression, etc...*’. The process of applying codes for the kind of EB started with concrete codes such as ‘*derogatory comments*’ and ‘*asked about sexuality*’ and were then distilled into larger themed code. For example, the previous two codes were collapsed into the larger themed code ‘*verbal*’. Table A5 in the results summarizes these codes, their frequency, and gives an example of each code with text from the survey results.

### 2.4. Limitations

The limitations of the article presented here may limit the results from being generalizable to the population at large. The primary limitation comes from the methodology, which was necessary to secure sufficient responses. Here, the number of LGBT physicists is unknown and there is no central way to contact them all or even as a subpopulation of any larger physics group. Consequently, the survey had to be snowball sampled by sending it out to peers who are LGBT and asking them to send it to their peers.

Secondly, many participants did not respond to the open-ended prompt in a manner that could identify the identity target of the harassment (42%) or the type (30%). It is possible that those who did respond experienced the most egregious experiences, and wanted to share. It may also be possible that those who had the most consequential experiences would have already left the field and are those not captured in the data. However, with these limitations in mind the results still illuminate these respondents’ experiences and what issues may be persistent for many physicists through the academic and career ladders.

## 3. Results

The results below will outline the aggregate qualitative responses about participants’ EBE or harassment.

### 3.1. Exclusionary behavior

In the past year from taking the survey 22% of respondents said they had experienced exclusionary behavior due to the status as a member of the LGBT community. These responses varied by gender and between cisgender and transgender participants. Women (31%)

**Table 1.** Identity target and type of exclusionary behavior (harassment).

	N	%	Description
Identity target			
Gender expression	17	24%	How one expresses their gender through clothing, behavior that is considered gendered, pronoun use, etc.
LGB	8	11%	Someone who identifies as lesbian, gay or bisexual
Women	16	23%	Behavior targeted toward women
Unknown	30	42%	
Type of EB			
Exclusion	15	21%	Not being included in academic and social events or collaborations
Misgendering	6	8%	Wrong use of pronouns or not recognizing an individual's gender identity
Sexual harassment	4	6%	Comments, treatment, or behavior toward someone based on sex
Physical	2	3%	Being physically touched
Verbal	20	28%	Derogatory comments or behavior involving negative comments or conversations
Unknown	24	34%	

and gender non-conforming (42%) reported higher levels of EB compared to men (11%),  $\chi^2(2) = 24.97, p < 0.000$ . Transgender participants (49%) reported higher levels of EB than cisgender (19%) participants,  $\chi^2(2) = 17.183, p < 0.000$ .

### 3.2. Qualitative experiences of exclusionary behavior

The qualitative experiences of EB of the participants is summarized in table 1 below. It was not always possible to account for the identity target of each experience of EB in the data, with 42% being unknown. However, for the ones that could be categorized, the majority were targeted at gender expression (24%) and women (23%) with fewer cases being targeted at LGB persons (11%). The type of EB experienced were primarily verbal (28%) and being excluded (21%) with the least amount of respondents reporting sexual harassment (6%) and physical touching (3%). Appendix table A5 gives an example of each identity and type code from the data.

### 3.3. Identity targeted by exclusionary behavior

The open-ended responses revealed three large categories in which each comment could be assigned, exclusionary behavior due to: gender expression, LGB people, and women. Each comment was coded based on the many identity for exclusion that was discussed.

**Gender expression** emerged for 17 respondents. Gender expression is how one expresses their gender through clothing, behavior, line of work, interests, etc, that are socially categorized based on their correlation to one's perceived gender. For example, wearing a dress would be considered traditionally a woman's trait in western culture compared to something like playing sports which would be considered a traditional expression of being a man [3]. Experiences of EB for transgender responses often came in this form, by their colleagues and other physicists not respecting their gender identity and expression through misuse of pronouns. For example, one participant explained:

*'I deal with not having my choice of pronoun respected every day. Sometimes these situations affect me deeply on an emotional level, and affect my ability to work for several hours'.*

This was common amongst the respondents being targeted for their gender expression. Another participant witnessed persons mocking transgender people which impacted their ability to be out about their identities:

*'Comments made by faculty members regarding another student's transgender status discouraged me from publicly revealing my sexual orientation and speaking out about issues of sexual identity'.*

For another participant they felt their appearance led to unfair treatment by their male colleagues:

*'I have less access to lab equipment than my male colleagues. I feel I get less respect from staff and colleagues probably related to my appearance'.*

Gender expression based EB was not only target at transgender respondents, one male respondent faced challenges as well:

*'At my university, coworkers made snide/hostile remarks about my wardrobe. EG "Why do you paint your nails? You're a boy. Boys don't do that".'*

**Women** was the second identity category that emerged in the open-ended responses, being relevant for 16 of the open-ended responses. For one respondent their experience stemmed from an inappropriate online post which they pushed back on and were then retaliated against by the perpetrator:

*'After a coworker posted on [social media] about 'women being crazy the hotter they are' because myself and a friend refused to have sexual relations with him, I pushed back against that statement. Since then this person refuses to speak to me, has spread rumors and pretends I do not exist when in his presence. It has made for a very uncomfortable work environment when he is around'.*

For another participant they experienced EB based on being a woman which influenced their decision to not be out about their sexual orientation beyond people that they trust:

*'I am a woman in physics surrounded by dudes. Therefore, I am subjected to offensive comments and other microaggressions on a fairly regular basis. I haven't experienced anything related to sexual orientation because I am only out to people I trust'.*

This experience was echoed furthered by a participant who experienced being a women as being problematic for their physics experience as opposed to their sexual orientation:

*'I have more issues with gender than with sexual orientation. There are only 2 tenured women + ~2 female postdocs in my department at work [out of about 100 scientists]'.*

**LGB** persons were the last identity category targeted for 8 respondents. For one participant this came in the form of inappropriate questions about their sexuality:

*'Being asked about my sexually by one of my bosses was very uncomfortable for me. After being told that it was not an appropriate question he proceeded to ask how I knew I wasn't straight'.*

This experience was similar for another participant as well who was asked *'you are not GAY are you?'* Beyond verbal questions some participants experienced the LGBT identity being used negatively and having their social concerns being dismissed by a lack of understanding:



*‘I know a fellow graduate student who has on multiple occasions used the phrase “That’s gay” to refer to something he disliked. He is aware of my orientation and meant no ill will toward me. This is the extent to which I’ve experienced anything offending I regard to orientation’.*

*‘Just comments that made it seem like people fighting for LGBT+ equal treatment were whining and not understanding all the ‘bigger’ issues facing the world. Just fairly clearly painted how some of the professors are completely incapable of understanding my day to day experiences’.*

### 3.4. Type of exclusionary behavior

Five types of exclusionary behavior emerged in the responses. These were exclusion, misgendering, sexual harassment, physical touching and verbal.

**Exclusion** emerged in the responses of 15 participants and came in the forms of both academic and social exclusion. For one participant they described their exclusion as being due to their gender:

*‘I feel like I get left out of social events because I am female and not “one of the guys”. I feel like people don’t take me seriously because I’m a girl’.*

For another participant, their exclusion from social events was coupled with negative comments said *‘behind their back’*:

*‘At both my current and previous institution, my peers have consistently left me out of social events and frequently talked about me behind my back with disrespectful language relating to my gender identity/expression’.*

Exclusion was not limited to social events, but also included some respondents reporting being excluded from professional activities as well:

*‘Continued exclusion from being asked to join [a] group proposal... not a single time I was invited to join the physics team in my department, despite asking many times. Many colleagues are in disbelief’.*

This emerged for other respondents as well, one explained that they were *‘Frequently treated like a secretary. My input is ignored. My insight is laughed at’*. Another participants responded that they *‘have less access to lab equipment than my male colleagues. I feel I get less respect from staff and colleagues probably related to my appearance’*. Unfortunately, exclusion also came from students for one participant who experienced not being seen as a competent teacher:

*‘It’s been slightly more than a year but my students tend not to believe I’m competent to teach... when they see me, because I’m a woman and a minority’.*

**Misgendering**, as partially explored in the gender expression section above, emerged for six respondents. Misgendering is when someone intentionally or unintentionally makes assumptions about someone’s gender through their access to facilities, use of pronouns, and more. For one respondent *‘A professor harassed [them] about bathroom usage’*. While another explained that they experienced repeated misgendering that may have been from *‘lack of awareness’* and not an intentional harassing behavior:

*‘Experienced repeated unintentional misgendering by a handful of people (always the same people), but I wouldn’t regard that as harassing behaviour – just as a sign of lack of awareness of the impact’.*



This potential unintentionality above was not so for all participants, one even had to go through formal procedures in order to have their correct pronouns used:

*‘I had to testify at length at an appeal hearing brought by a fellow departmental faculty member who was appealing the disciplinary action taken against him. He had refused or was unable to use the correct pronouns when referring to me even though my transition had been 5–6 year prior to the last instance of his use of the wrong pronouns’.*

**Sexual Harassment and Physical Touching** were reported by four and two participants respectively. For one student they were *‘verbally sexually harassed by a male classmate during lab’* while another explained that they were *‘hit on by male coworkers in their thirties, visiting postdocs, etc (and I am a teenager)’*. Physical touching for the two respondents came in the form of *‘inappropriately touching or trying to touch and ‘stalkin’ behavior from another faculty member while a graduate student explained that:*

*‘[I was] Touched inappropriately by another graduate student I did not know in my office (which I never gave him). When emailed him to ask that he does not come to my office or contact me again, he again showed up at my office’.*

**Verbal EB** was the most common amongst respondents with 20 individually coded quotes. Verbal EB came in many forms from crude comments, sexist jokes, and people invalidating the rights and experiences of women and LGBT persons. For one physicist in the workplace she noted that *‘The guys frequently made crude comments during work about other females in the area’*. While another *‘frequently’* experienced *‘an uninformed joke, teasing or lack of understanding that causes discomfort. [the perpetrator believed the discomfort] ‘is not legitimate, as it was just a joke’* For one respondent they experienced verbal EB in multiple forms, which began to show the intentionality of some of the experiences on the part of the perpetrator:

*‘...sexist jokes directed at me (e.g. being told that I would not be using experimental apparatus in a lab except for personal grooming), sexist assumptions directed at me (... being told that I only received the position due to my gender)... microaggressions (e.g. being accused of lying by a professor I was working with when I mentioned my experience being disowned), etc. The examples within the entirety of my campus are too numerous to list’.*

As explained above, gender expression was one target of EB for the respondents. For two, they experienced comments and other behaviors due to their gender expression or identity:

*‘Misogynistic comments (both benevolent and outright) from those who perceive me as female. Open mockery of the concept of gender identity & associated terms at social events’.*

*‘Being mocked and openly laughed at by a group of colleagues in a corridor of my department as a result of my gender expression’.*

For other respondents, their experience of verbal EB came from assumptions about supporting and believing the experiences of persons who are LGBT or women:

*‘The most obvious was a horrific happy-hour conversation where we discussed whether to believe sexual assault survivors. There are many more small things’.*

*‘A senior grad student who used to be my supervisor and is mormon gave a mini-speech (specifically to me, albeit without knowing my sexuality) about he opposes same sex*

*marriages, how same sex marriages created worse environments for children to grow up in, and how redefining marriage “just because people want to is kind of silly”.*

Lastly, one participant explained that they had a long conversation with a colleague about homophobia in physics only to be told later by the same colleague that their experiences were not valid:

*‘A colleague who knows I care about educational equity came to my office and asked me whether I thought there was homophobia in physics given that he knows lots of gay people in the field. We had a conversation that last over an hour-detracting from my work day-about heterosexism, representation, intersectionality (e.g., not all gay people are cis white gay men), etc. In that conversation, we also talked about microaggressions and I described for him a microaggression I experienced earlier this semester about a week later; he came back to my office to tell me that he decided that the episode I described was “at best a nanoaggression”. This was very frustrating and upsetting, especially given the time I have devoted to conversations with him in the past’.*

#### 4. Discussion

What is clear from the data is that LGBT persons in this survey sample experienced a range of exclusionary and harassing behavior from their colleagues, supervisors, fellow students, and more. The kinds of exclusion or harassment ranged from social exclusion, verbal comments to physical touching and harassment. Two salient trends emerged in the analysis pointing to broader concerns in the physics community: the respect for the gender identity of transgender participants and the negative experiences of women. Combined these suggest the further importance of intersectionality of identities and experiences when pursuing work related to equity and inclusion in the field of physics [3, 38].

Throughout the data a disrespect for transgender respondents gender identities was apparent in both the gender expression target of EB and the misgendering type of EB. For some participants it was unintentional, for others it was clearly intentional. In either case, continual misgendering could be harmful for the success and persistence of transgender physicists who are distracted from their work by having the wrong pronouns used in reference to them, and being restricted from needed facilities (which in the data included both personal and professional areas). These experiences reify the conclusions of the APS LGBT Climate in Physics report which demonstrated greater experiences of EB by transgender respondents in comparisons to their LGB peers [26].

For women respondents, their gender played a role in the EB and harassment they experienced. For some, they even explained that they were not out about their sexual orientation because of the gendered EB or harassment they were experiencing. From these findings it is evident that gender is still a significant source of harassment for physicists, and as pointed out by a recent National Academies of Science report, it is crucial that research on women in STEM should focus on multiple intersecting identities [39]. This might include women in this study who were also LGBT, or women who are also people of color, have disabilities, first generation, etc.

As a case study, this article offers one of the first in-depth explorations of the EEB and harassment targeted at LGBT physicists. Further work is needed not only uncover the potentially spread of this experience, but also to develop policies to support LGBT, and all, physicists alike. It is also unknown if these findings would be replicable in other STEM fields, further research that includes other STEM fields such as biology and chemistry would help expose and understand the potential ubiquitousness of LGBT experiences in STEM.

## Appendix A. Demographics

The demographics information has been previously published [26] in a larger report, but in general the majority of participants identified as men (50%) and women (37%). With smaller

**Table A1.** Gender.

	<i>N</i>	%
Man	162	50%
Woman	119	37%
GNC	25	8%
Other	11	3%
Missing	7	2%
Trans	37	11%
Intersex	2	1%

**Table A2.** Race<sup>a</sup>.

	<i>N</i>	%
African	2	0.6%
African American	6	1.9%
Alaskan Native	1	0.3%
Asian	19	5.9%
Asian American	11	3.4%
SE Asian	2	0.6%
S Asian	7	2.2%
Caribbean/West Indian	2	0.6%
White	267	82.4%
Latino	16	4.9%
Latin American	4	1.2%
Middle Eastern	5	1.5%
Native American Indian	6	1.9%
Pacific Islander/Hawaiian Native	2	0.6%

<sup>a</sup>Could select more than one, sums to greater than 324.

**Table A3.** Sexual orientation.

	<i>N</i>	%
Asexual	15	5%
Bisexual	86	27%
Gay	116	36%
Heterosexual	46	14%
Lesbian	45	14%
Man loving man	10	3%
Pansexual	26	8%
Queer	63	19%
Questioning	8	2%
Woman loving woman	6	2%
Other	15	5%

**Table A4.** Workplace and campus status.

Workplace ( $N = 324$ )	$N$	%
Academia	272	84%
Industry	16	5%
Government	19	6%
Other	8	2%
Workplace status ( $N = 324$ )	$N$	%
Undergraduate student	62	19%
Graduate student	126	39%
Post doc	29	9%
Faculty	42	13%
Staff	9	3%
Administration	2	1%
Research scientist	17	5%
Technician	5	2%
Engineer	7	2%
Project manager	3	1%
Other	14	4%
UG students ( $N = 62$ )	$N$	%
1st year	7	11%
2nd year	8	13%
3rd year	15	24%
4th year	25	40%
Other	7	11%
G student ( $N = 126$ )	$N$	%
Masters	12	10%
PhD	111	88%
Other	2	2%
Faculty ( $N = 42$ )	$N$	%
Instructor	2	5%
Assistant professor	10	24%
Associate professor	12	29%
Professor	15	36%
Visiting professor	1	2%
Other	2	5%

numbers identifying as gender non-conforming (GNC, 8%) or other gender identities (2%). A separate question asked participants if they were transgender (11%) or intersex (2%) (appendix table A1).

When asked about race participants could select multiple boxes to describe themselves. Most identified as White (82%) or Latino (4.9%) with only fractions of percentages of participants identifying as other categories (appendix table A2). Participants could select multiple categories for sexual orientation (appendix table A3). Most identified as being gay (36%), queer (19%), lesbian (14%), and heterosexual (14%).

**Table A5.** Identity target and type of exclusionary behavior (harassment).

	<i>N</i>	%	Description	Example from data
Identity target				
Gender expression	17	24%	How one expresses their gender through clothing, behavior that is considered gendered, pronoun use, etc	'Being mocked and openly laughed at by a group of colleagues in a corridor of my department as a result of my gender expression'.
LGB	8	11%	Someone who identifies as lesbian, gay or bisexual	'Being asked about my sexually by one of my bosses was very uncomfortable for me. After being told that it was not an appropriate questions he proceeded to ask how I knew I wasn't straight'.
Women	16	23%	Behavior targeted toward women	'Was one of 2 females in 22 person workplace. The guys frequently made crude comments during work about other females in the area'.
Unknown	30	42%		'Continued exclusion from being asked to join group proposal ... not a single time I was invited to join the physics team in my department, despite asking many times'.
Type of EB				
Exclusion	15	21%	Not being included in academic and social events or collaborations	'Many times conversations of a group of men were stopped when I joined, even when from a distance, I could hear that they were talking about physics'.
Misgendering	6	8%	Wrong use of pronouns or not recognizing an individual's gender identity	'I deal with not having my choice of pronoun respected every day. Sometimes these situations affect me deeply on an emotional level, and affect my ability to work for several hours'.
Sexual harassment	4	6%	Comments, treatment, or behavior toward someone based on sex	'After a coworker posted on facebook about 'women being crazy the hotter they are' because myself and a friend refused to have sexual relations with him, I pushed back against that statement. Since then this person refuses to speak to me, has spread rumors and pretends I do not exist when in his presence. It has made for a very uncomfortable work environment when he is around'.

**Table A5.** (Continued).

Physical	2	3%	Being physically touched	‘An older faculty retired who was on campus to teach part-time inappropriately touching or trying to touch and ‘stalking’ me. I am a petite first year female assistant professor. After two quarters of it I wrote him an email asking him to back off and go to my chair involved who was supportive. Apparently he has a history of doing this to women and they say he won’t be hired back. I also got inappropriate comments from male students in my reviews from the upper division physics course I taught. They referred to me with sexist, offensive terms’.
Verbal	20	28%	Derogatory comments or behavior involving negative comments or conversations	‘Misogynistic comments (both benevolent and outright) from those who perceive me as female. Open mockery of the concept of gender identity & associated terms at social events’.
Unknown	24	34%		‘I would say that I’ve experienced microaggressions at work during the past year because of my gender and sexual orientation, but no harassing behaviour’.

The majority of survey participants reported working in academia (84%) with fewer participants reporting to work in industry (5%) or government (6%). Within academia most respondent were graduate students (39%), undergraduate students (19%) and faculty members (13%) (appendix table A4).

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