Part III:

Does Every Biased Action Have an Effective Reaction?

Career Support Group
Women in Science

CSG-WiS Survey 2018-19

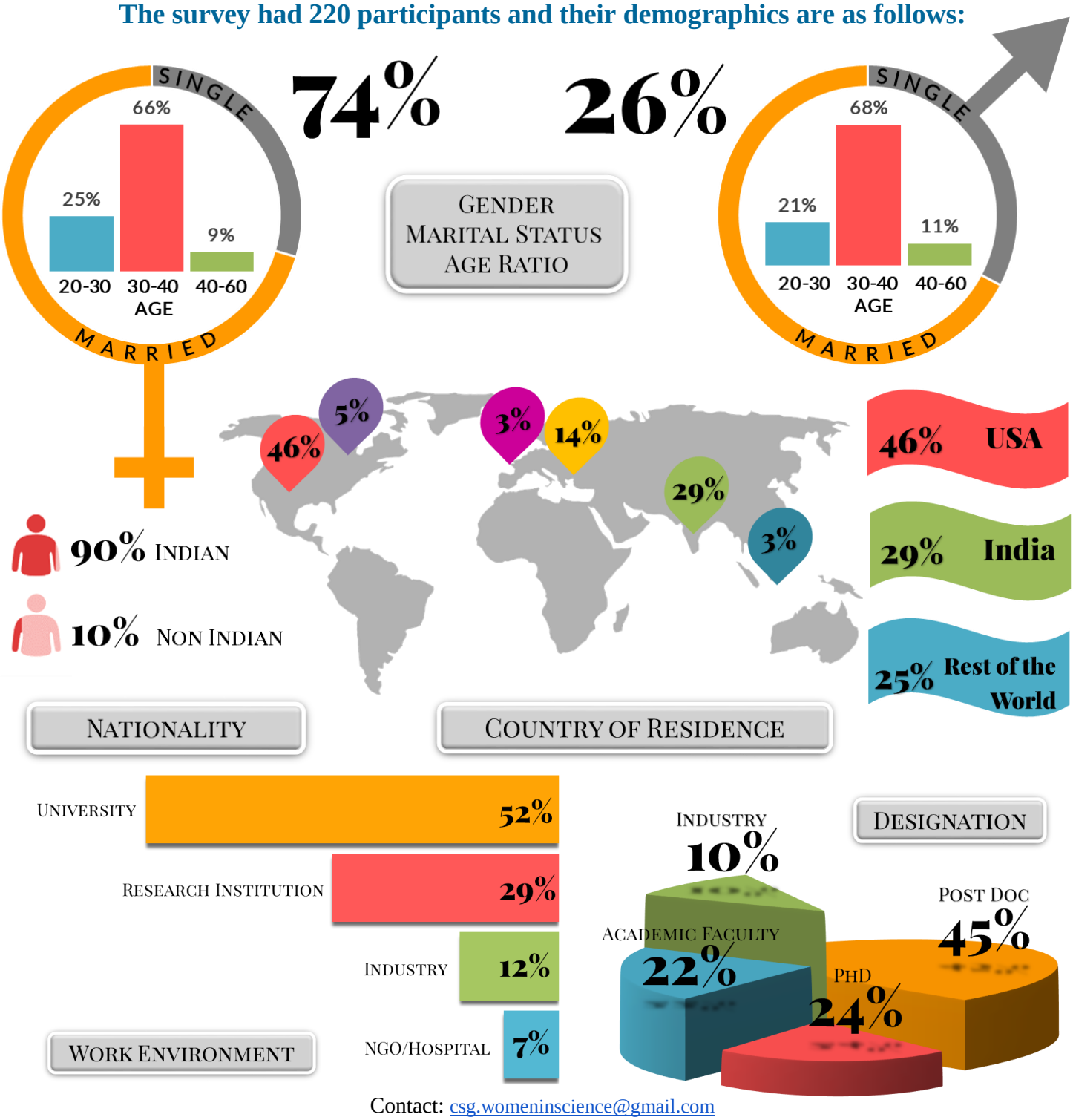
CSG-WiS Survey : Part III

2018-19

Career Support Group
Women in Science

In early 2018, a post on Career Support Group (CSG) asking about the challenges faced by women in their work place/graduate school, got an overwhelming response. There were stories and struggles shared, but also support and willingness to take action. This led to the inception of Women in Science (WiS) sub-group of the PhD Career Support Group (CSG), a group of volunteers both women and men who care about the challenges faced by women in their lives. This survey is a part of an initiative to identify and address gaps in the support received by women researchers in a professional STEM environment and will be published as a 5-part series on ClubSciWri.

The survey had 220 participants and their demographics are as follows:



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Does Every Biased Action Have An Effective Reaction?

Malvika Sharan, PhD

Divya Swaminathan recalls being harassed during her Ph.D. by a classmate who wanted to date her. She had declined his advances making it clear that his attention was unwelcome. He kept sending numerous messages and emails, and when he did not get a positive response, he accused Divya of his own unproductivity. Divya reached out to a woman professor in her department for advice, who offered her support and helped document these incidents. Late one evening the perpetrator barged in on her while she was alone in the lab. This was the tipping point. Having been harassed for several months, she felt that filing a sexual harassment complaint was her best recourse. Divya told the professor of her decision, who advised her to let the offender know of her intentions. As soon as he was informed though, the situation changed - he cut all contact and stopped harassing her. Relieved that it was over, Divya did not file a complaint, although, in hindsight she regrets not having reported the misconduct. Universities generally take action when multiple complaints are made, and not filing one means that some offenders may never be held accountable for their behavior.

** Interview of Divya Swaminathan, PhD conducted by Shivasankari Gomathinayagam, PhD*

Depth of issues faced by Women Researchers in STEM

Introduction

Bias and harassment in all forms can be very detrimental to one's performance at work and personal well-being. Scientific organizations vastly focus on how we conduct research [1] and how we publish them [2], but sadly, bias incidents are not treated as seriously as research misconducts [3]. Policies such as Title IX [4a] and Non-discrimination in Employment Practices in Education [4b] in the USA, POSH act 2013 in India [5] and European Commission's gender equality law [6a] and Employment Equality Directive [6b] aim to ensure equal opportunities and gender equality in decision making positions, closing gender pay gap, and ending harassment. Despite such strong measures, inequality and bias exist in workplaces and beyond. The Eurobarometer survey conducted in EU countries [7] showed that their respondents exhibit discriminative behaviors based on gender, ethnicity, sexual orientation, disability, religious belief, and older age. As per Implicit Project led by Harvard's global online research, over two-thirds of the online-test participants (men and women) are gender-biased and tend to think that men are better suited for professional careers than women, who are better as homemakers [8]. Women are often the targets of sexual harassment; people of color deal with racial bias; LGBTQ+ community experience emotional harassment; and those who belong to multiple marginalized groups such as queer women of color simultaneously experience multiple disadvantages and face more bias-related incidents. In the #metoo movement era [9], academics have also come forward to acknowledge the damages caused by gender bias, discrimination and sexual harassment [10, 11 , 12].

The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted by UN General Assembly in 1979 [15], defines what gender discrimination is and provides agenda for action to end them. UN's 2030 Agenda for Sustainable Development in its core includes Gender equality and the empowerment of women and girls [16]. Visible efforts are being made to identify causes and damages posed by biases, and prevent them from occurring in the future. Nonetheless, over two-thirds of bias incidents in the workplace are never reported [13, 14]. There are several reasons, which include not being aware of the policies and complaint mechanism, dealing with the situation themselves, fear of negative repercussions, the social stigma attached to victims or not perceiving offense serious enough to make formal complaints. It's obvious that these challenges have only added to the existing burden of people from historically underrepresented groups in STEM. Specifically, women and members of other marginalized groups have long been struggling to find secure positions in science, therefore, organizations must identify the equitable system to create a more welcoming, respectful and diverse workplace for everyone.

In this article, we assess responses and actions against bias and other forms of harassment (sexual, mental, emotional etc.), henceforth indicated by 'bias incidents', experienced or witnessed by researchers at their workplaces. We also assess the outcome of reporting such incidents, challenges associated with them and further recommendations to address them. This report is a part of the survey that was conducted under the title "Support Received by Women in Research (CSG-WiS)". We gathered 219 responses covering a wide demographic, age, social status, research background, positions, and workplaces. For the gender aspect, statistically significant data is available to evaluate two genders: men and women. Insufficient data makes it inconclusive to state anything about other genders. 197 of our respondents are Indian nationals (including the authors), therefore a few observations might be influenced by this factor. A large proportion of our respondents are located in India and the USA, however several participants are also nationals or residents of other parts of Americas (Canada, Mexico etc.), European countries (mainly from United Kingdom, Germany, and the Czech Republic), and other Asian countries (Singapore, Bangladesh, and Sri Lanka). Finally, although this report focuses on identifying support for women in research, recommendations listed in this article are applicable for supporting members of other marginalized groups as well.

Methods

This article is a report on 'Bias Assessment II' subsection of the CGS-WiS survey that assesses respondents' reaction towards or action taken against gender-bias/harassment experienced at the workplace. This assessment has been presented in 4 parts:

i. Responses to bias incidents at workplaces
ii. Factors influencing our responses
iii. Existing mechanisms to deal with incident reports
iv. Outcome of the reported incidents.

Respondents could choose an answer from the multiple choices provided for each question. These choices

included specific responses beyond "yes" or "no", for e.g. the question 'Did you personally respond to the incident?' was given with the following options: 'yes, I immediately reported', 'yes, but I reported later', 'Someone else reported for me', 'no, I didn't know how to respond', 'no, I was discouraged', and 'no, I didn't bother'. Other answers were also encouraged by the respondents when not given in the choices. For each part, responses were evaluated based on the specific answers provided by respondents. For each observation, Fisher exact test, Chi-square statistics, and P value for hypothesis test were performed on the contingency tables to calculate statistical significances of these analyses. Data analysis was conducted using Python packages and images were generated (heatmaps and stacked charts) to display comparative assessments and correlations between different factors included in this study. A label or a gradient bar is provided for each image to indicate different data points and ranges. The complete data analysis and related analysis materials will be published after the publication of all the 5 articles series as a common file.

1. Responses to bias incidents at the workplace

This assessment specifically looks into the proportion of respondents who experienced or witnessed bias incidents and evaluates whether or not they report them to appropriate authorities (figure 1, P value 0). The following observations were made:

- 169 respondents indicated to have faced bias incidents at work. 37% of them stated to have reported or responded to such situations (indicated as 'yes').

- 23.7% of these incidents were reported immediately after an incident occurred. This observation is in agreement with the studies conducted previously by Australian Human Right Commission [13] and YouGov in the UK [14] that stated that only 20-25% encountered incidents are reported by the targets.

- 22.5% of respondents delay reporting and the remaining of 42% of respondents indicated that they did not report such incidents (indicated as 'no') due to one or multiple of the following reasons: targets or witness/bystanders didn't bother, they didn't know how to respond, they were afraid of furthering the issue or they were discouraged from reporting the incident.

It's important to note that the remaining 50 participants responded to never have faced any bias (indicated as 'NA'). Although, this is undeniably positive news, this may have resulted due to combinations of personal and social factors, which we haven't evaluated in our survey.

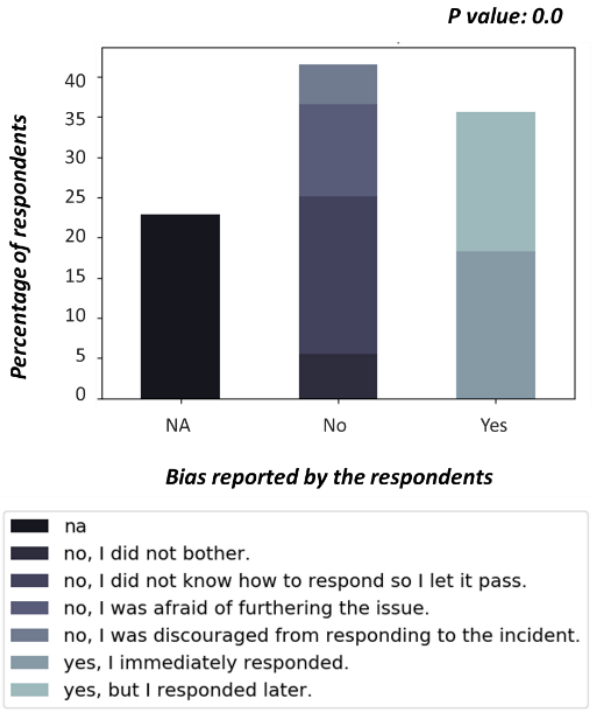

Figure 1: Bar chart shows a range of responses to bias incidents as indicated by the 219 survey respondents. The y-axis shows the percentage of respondents who did or didn't report bias incidents (shown as 'Yes' and 'No' on the x-axis). 'NA' (shown in black) is the proportion of respondents who stated that they never faced any bias incident at work.

2. Factors influencing response to bias incidents

We evaluated our survey data to find any pattern of response to bias incidents in correlation with genders and country of residence of our respondents (figure 2a, P-value 0.04).

Reported incidents do not appear to correlate with genders of reporters, however, both men and women respondents residing in India reported bias incidents more than those who live in other countries (figure 2a). This may points to an explanation that people feel more comfortable and willing to report incidences in their home country where they are more aware of their rights, safety, and support system.

More men than women respondents indicated to never have faced or witnessed bias incidents (figure 2a).

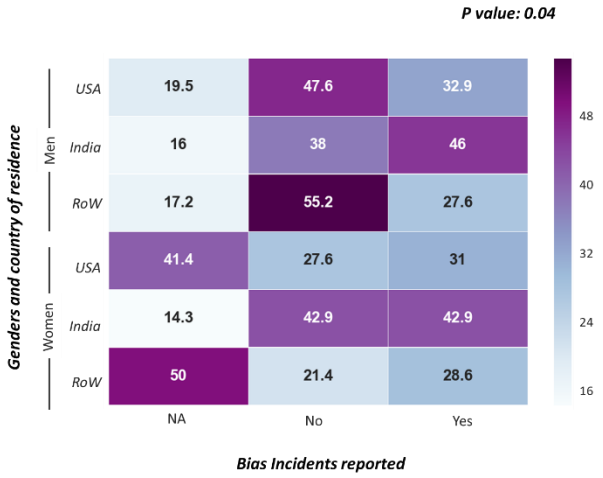

Figure 2a: The heatmap shows a possible correlation between respondents' genders (women and men) and demographics (Americas, India and rest of the world indicated by RoW) on the y-axis, and their response to bias incidents. On x-axis 'NA' indicates when respondents didn't face any bias, 'Yes' indicates when they faced bias and reported, and 'No' indicates when they faced bias but didn't report.

A few responses are categorized as 'other' (figure 2b, P value 0.0), which include bias incidents that were addressed individually, for e.g. targets directly responded to the offenders, bystanders either counseled the targets or put them in contact with authorities who could address the situation, or someone else reported the case on behalf of the targets.

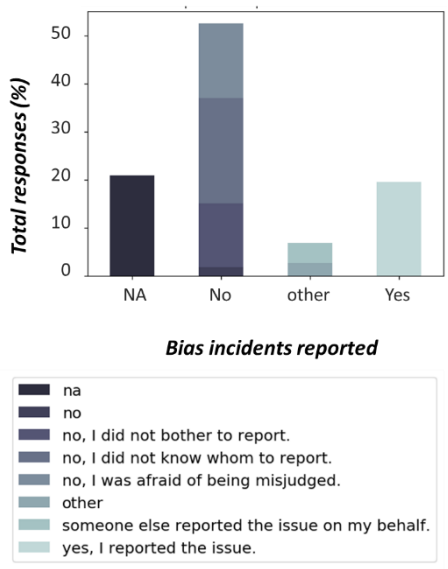

Figure 2b: The stacked bar chart shows the proportion of respondents (y-axis) and their personal motivation to report bias incidents (x-axis).

60% of women respondents who reported incidents indicated that they report misconduct immediately whereas more than 70% of men delay reporting bias incidents (figure 2c, P value 0.016).

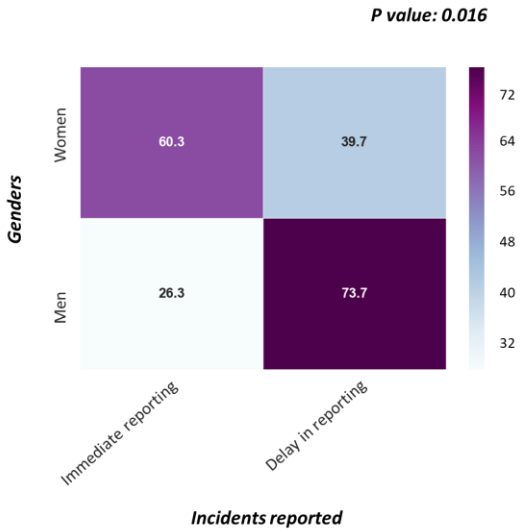

Figure 2c: The heatmap shows the possible correlations between respondents' genders (y-axis) and their response to the incident: if they immediately reported or delayed in reporting (x-axis).

One striking observation noted in this data is that over 50% of our respondents did not report bias incidents only because they did not know how to respond to such situations (figure 2d, P value 0.4).

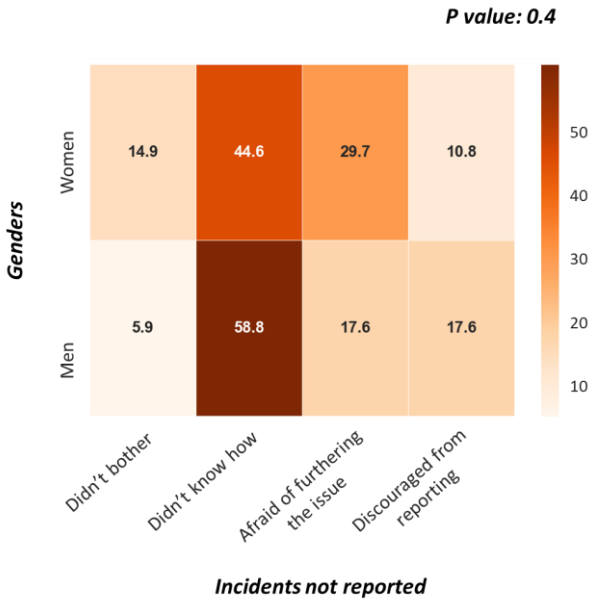

Figure 2d: The heatmap shows a possible correlation between respondents' genders (y-axis) and other factors that led them to not reporting bias incidents (x-axis).

In our survey data, several respondents also indicated that they did not report incidents because they were afraid of furthering the issue or they did not bother to respond. More men than women respondents indicated that they were discouraged from reporting the incidents.

The survey data is assessed to find out if people at different research positions respond to bias incidents differently. The observations made here are limited to our survey data, however, they provide some interesting insights. 21 out of 24 (87.5%) respondents who hold leadership positions such as group/team leaders have faced biased incidents, of which only 6 people reported the case immediately. 78 out of 96 (81.25%) respondents in postdoc positions have indicated to have faced bias, of which only about 20% of cases get reported immediately. 65% of respondents in Ph.D. positions have faced bias, of which 60% of incidents were reported. More than 50% of cases encountered by respondents in higher positions were not reported due to two reasons - fear of furthering the issue and lack of information about whom they could contact (figure 2d). 8 respondents also stated that they were actively discouraged from reporting the incident.

This evaluation indicates that there is a lack of awareness and support regarding reporting mechanism in the workplaces and societies, which may result in unreported cases of bias encountered by both the targets and bystanders.

3. Existing mechanisms to deal with reported bias incidents

Organisations are required to have a system established to deal with workplace bias and discrimination. We asked our respondents if they are aware of any existing mechanism such as designated committees/members at work to address incidents of bias and harassment (figure 3, P-value 0.0). 24% of our respondents don't know of any official members who would receive such reports at their workplaces. Only 38% of our respondents are aware of designated members or committees who are responsible to address cases of misconducts. Remaining 38% of our respondents indicated that their supervisors or Human Resource departments are responsible for receiving reports of misconducts.

This assessment shows the relevance of designated committees by making these statistical claims:

i. The number of reported cases are higher (53%) when people are aware of designated committees that deal with the misconduct, compared to only 18% of reported incidents when respondents didn't know whom they could contact.
ii. About 50% of cases are unreported when there is a lack of awareness about the designated member who could deal with misconduct related reports. This number is reduced (33%) when the committees are well known in the workplace.
iii. Similarly, when there is an established trust among employees with Human Resource and supervisors, people tend to report bias incidents in 50% of cases.
iv. Existence and awareness of these designated members/committees, however, had no correlation with the proportion of respondents who don't face bias incidents at their workplace (indicated as 'NA').

This evaluation clearly indicates that it's important to have information of designated members/committees and reporting guidelines to address workplace misconducts. Since 50% of cases are never reported due to lack of awareness, insecurities and social stigmas attached to being victims, it's crucial that these committees ensure that the potential targets of harassment are supported and empowered and there are policies to penalize offenders or potential offenders for any discriminatory behaviors.

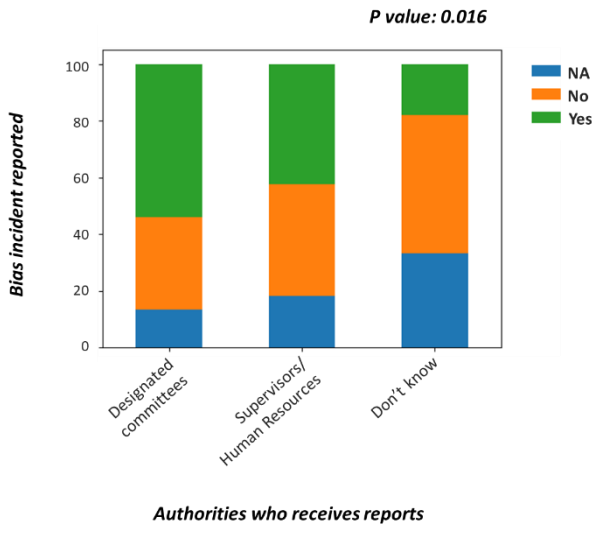

Figure 3: 100% stacked bar chart representing the percentage of respondents' (y-axis) who are aware of the different members and authorities in their organizations who are responsible to address bias incidents as shown on the x-axis. Respondents who are not aware of the contact person in their organization end up reporting less than 20% of issues encountered.

4. Outcome of the reported bias incidents

For the assessment in this part, we asked our respondents the following questions:

i. How seriously were their complaints taken?
ii. How comfortable were they when reporting bias incidents?
iii. What positive or negative outcomes were resulted by reporting the bias incidents?

Our assessment suggests that there are definite actions taken to address bias incidents when reported by targets and bystanders of such situations in the workplaces. 21 respondents indicated that strict actions were taken and 13 respondents mentioned that some actions were taken when they reported the incidents. However, two third of respondents who reported bias incidents did not think that designated authorities took any action to bring any notable positive improvements in work culture (Figure 4a, P-value 0.01). In line with the previous section, when people don't know whom to contact or how to respond to such situations, no positive outcome is experienced in 90% of cases.

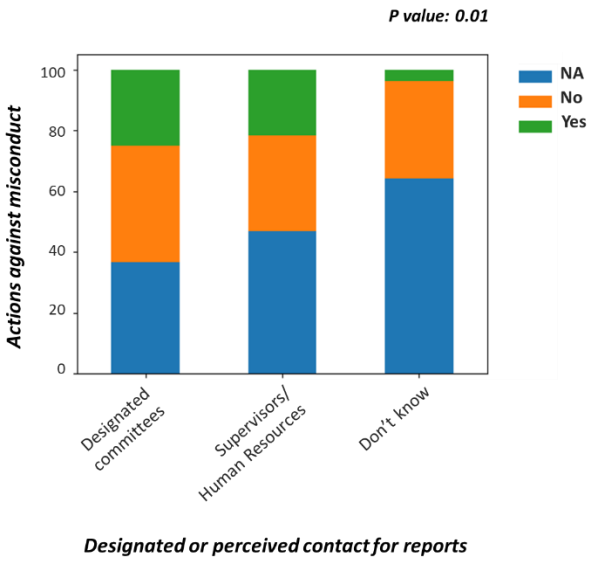

Figure 4a: 100% stacked bar chart shows a proportion of responses (y-axis) indicating if any actions were taken against misconducts ('Yes' in green and 'No' in orange) by the designated or perceived authorities in the workplace as listed on the x-axis. Those participants who didn't report any incidents have been shown as 'NA' (blue). When respondents don't know who could address their incidents reports, they don't receive any definitive outcome in 90% of the cases.

Only 9.7% of respondents indicate that they were comfortable reporting misconducts, whereas 26.6% of respondents indicated that they were 'somewhat comfortable'. Rest of those who could report a bias incident found raising their voice against bias in their workplace a challenging action (figure 4b, P value 0.0). As shown in figure 4c (P-value 0.001), those who are very comfortable at reporting incidents report 87% of cases of bias they encounter. Respondents who are somewhat comfortable, report 66% of such cases, and even those who are not comfortable, go beyond their comfort and report one-third of the incidents they encounter. Though the observation for designation specific analysis is limited to our survey, it was nevertheless notable that women, even in leadership positions, found it very uncomfortable to report bias incidents.

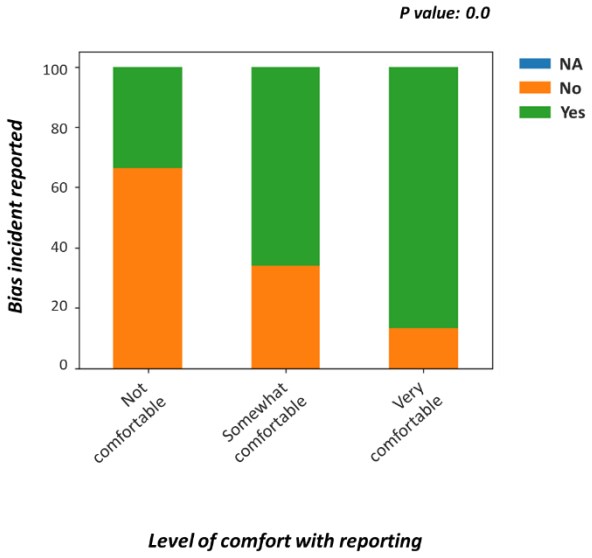

Figure 4b: 100% stacked bar chart shows the proportion of bias incidents (y-axis) that were reported ('Yes' in green) or not reported ('No' in orange) and their varying levels of comfort (or discomfort) with reporting the incidents (x-axis). Over 65% respondent didn't find it easy or comfortable to report bias incidents.

Finally, we assess any positive or negative outcome resulted due to the reporting of incidents. 111 respondents indicated to have faced bias in the workplaces and responded to survey questions to help us assess outcomes of their report (positive, negative or no outcome).

- ~60% of these respondents reported incidents, of which only 20% experienced a positive outcome of their actions such as improved work culture, workplace support or apologies (figure 4c, P-value 0.001).

- Although 60% of reporters don't experience any specific outcome of their action against bias, 77.5% of reported cases don't result in any positive outcomes either (figure 4c, P-value 0.001). This indicates that organizations lack strong policies and a transparent system to address concerns of their employees or reward them for their responsible actions.

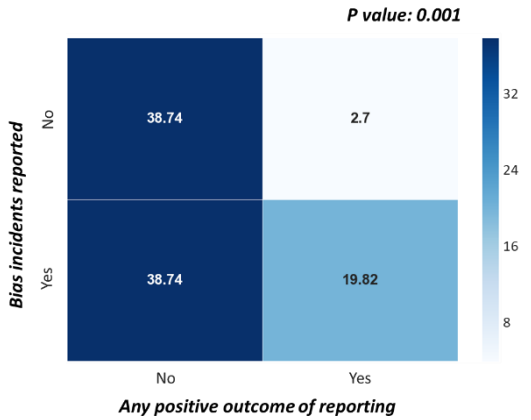

Figure 4c: The heatmap shows a possible correlation between reported incidences (y-axis) and their positive outcomes, shown in 'Yes' or no specific positive outcomes, shown in 'No'. Only 19.82% responders report positive outcomes which could range from direct action against the offenders to apologies.

More women than men (57%) did not experience any positive outcome of reported incidents; however, more men than women faced negative consequences for reporting incidents (figure 4d, P-value 0.053).

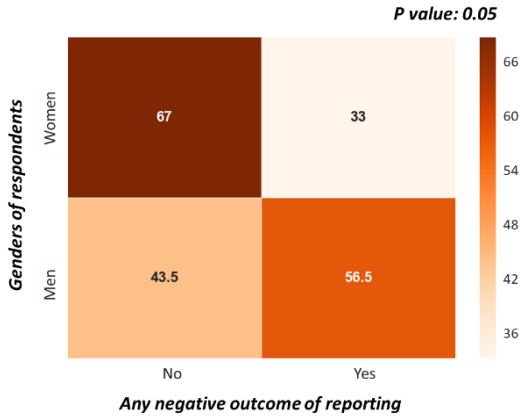

Figure 4d: The heatmap shows a possible correlation between genders of respondents (y-axis) and any negative outcomes of reporting bias incidents, shown in 'Yes' or no specific negative outcomes, shown in 'No'. More men than women indicated to have experienced negative consequences of reporting bias incidents.

Less than 10% of respondents who find it very comfortable to raise their voices against bias, experienced a positive outcome of their actions (figure 4e, P-value 0.0).

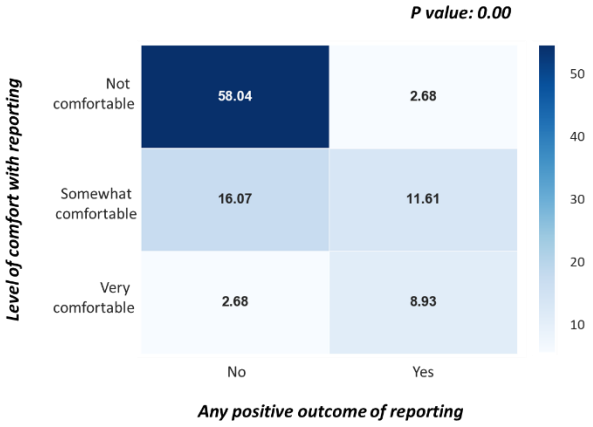

Figure 4e: Heatmap shows a correlation between positive outcome and level of comfort with reporting of bias incidents. 58.04% of respondents are not comfortable reporting but don't experience any positive outcome even when they report.

31% of reporters who had indicated that they were uncomfortable reporting incidents were negatively affected by experiencing threats, grudges, unfriendly behaviors by colleagues, bullying and forced resignation for reporting (figure 4f, P-value 0.02). Such outcomes reinforce the fear of being misjudged or facing challenging consequences, which is why people often don't report misconducts.

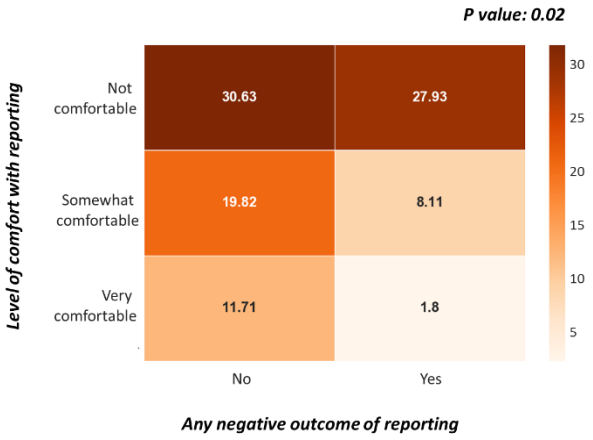

Figure 4f: The heatmap showing correlation between negative outcome and level of comfort while reporting of bias incidents. 27.93% of respondents were not comfortable reporting bias incidents and experienced negative repercussion for reporting.

Challenges & Recommendations

Our survey shows that over half the incidents experienced by people never get reported, perpetuating risks of unreported misconducts. People who are familiar with reporting mechanisms at their organization, tend to report more incidents knowing that they have appropriate support and policies in place. These

mechanisms include effective evidence-based diversity policies and designated members/committees who uphold those policies. Designated members help creating safer space for people by establishing a code of conduct [19], and reporting and investigation guidelines to deal with bias incidents [20]. They can also provide a common platform for people to gain information on their rights and support system. Ombudsperson or trusted members who are listed as visible points of contact, improve chances for people to report bias incidents as people can reach out to them directly for support in difficult situations [21]. Organizations can also hire services for professional evaluation and assessment of workplace to understand how inclusive their policies are, and where they can receive recommendations for improvements (such as Stonewall [22] and Athena Swan [23]). Studies have shown that anti-harassment training and education program contributes to positive skill development of people with a special focus on advancing women and members of other marginalized groups [24]. These training can be given on a range of topics such as coaching, mentoring, ally-skills, conflict management, case reporting/handling, and implicit and unconscious bias. People at leadership positions should educate their teams about how to handle conflict and accept criticism when they exhibit an unconscious bias towards their colleagues. They can share professional contacts of individuals, mentors or communities who their group members can reach out to for support. Supervisors must establish specific resources for their students to help them handle situations of bias and outcomes of those situations.

It's not only up to organizations and authorities, but we should also take responsibilities to educate ourselves [25] about our rights and identify resources to help us answer questions such as:

- What is considered a violation of the code of conduct?
- What can we do when we experience or witness harassment and bias incidents?
- What is the reporting mechanism and guideline in the workplace?
- What kind of support is available and what policies are in place against harassment?

At an individual level, we should make it our duty to speak up whenever unfair and biased behaviors are encountered. We should consciously train ourselves to be a better ally to our colleagues by using our societal privileges to step up for others who are less advantaged [26]. We should take the opportunity to understand our own bias and inhibitions as bystanders, learn to intervene when witnessing harassment or apologize and correct ourselves when we cause offense. We should participate actively in creating safer spaces for relevant conversation, for instance by organizing/attending social awareness events and exchanging useful resources with our peers. Finally, as highlighted at the personal story featured in the beginning of this article, when we don't know how to respond to an uncomfortable or a stressful situation, we should reach out for help and support of trusted allies, advisors or mentors. We should try to document proofs of misconducts, and report them to the appropriate authorities and whenever we can, extend solidarity and support to others who might be facing difficult situations in our workplace and society.

Concluding remarks

International and national policies are established in most public and private sectors to deal with workplace bias. However, we observed that less than 25% of incidents are reported immediately and over half the cases are never reported. In our survey data, it is apparent that there is a huge gap of information on what bias is, how to respond to them, and what supports are available in the workplace to deal with such situations. Any corrective or preventive measures will be ineffective if such lack of awareness at professional spaces will continue to exist. We observed that people tend to report bias incidents more when there is information exchange and trust between people and their supervisors or administration including designated committees who can handle these issues. We also noted that even with a support system, formally reporting of bias incidents can still be an uncomfortable and daunting act. Victims of bias and harassment don't report such incident sooner for a variety of reasons. Some of these reasons are a lower sense of support, fear of furthering sensitive issues, minimization of harm, social stigma, professional repercussions, stereotypes, unfriendly behaviors or threats towards themselves in the future. Even when people overcome their fear and discomfort, reporting bias incidents does not guarantee them any definite resolution or favorable outcome. This indicates a lack of transparency in how organizations deal with such cases by questioningly maintaining low policy standards that barely satisfy the legal requirements. This may inadvertently discourage targets and bystanders of discriminations, causing

disappointments, burnout, personal challenges, and poor work performance. In addition, this should also be noted that allegations of misconduct can damage the reputation of alleged person or organization even if later proven to be unjustifiable. Therefore, organizations and individuals must maintain the confidentiality of the investigation and protection of all parties involved from retaliation. Effective measures must be taken to enforce mechanism for information dissemination, education, reporting, case-handling, investigation and prevention of misconducts to establish security, gender equity and diversity in the workplace.

One important lesson that underlies this report is that bias, discrimination, and harassment are worryingly common. Collective efforts and accountability at both organizational and individual level help in creating a more welcoming and safer environment for everyone in the workplace. Particularly, a diverse, inclusive and supportive culture can prevent workplace bias and empower women and members of marginalized groups in STEM by improving their chances to thrive as researchers.

References:

Reports, policies and practices related to bias/harassment/misconducts:

[1] National Academy of Sciences (US), National Academy of Engineering (US) and Institute of Medicine (US) Panel on Scientific Responsibility and the Conduct of Research. Responsible Science: Ensuring the Integrity of the Research Process: Volume I. Washington (DC): National Academies Press (US); 1992. 4, Misconduct in Science—Incidence and Significance. https://www.ncbi.nlm.nih.gov/books/NBK234512/

[2] White Paper on Publication Ethics CSE's White Paper on Promoting Integrity in Scientific Journal Publications; 3.2International Models for Responding to Research Misconduct. *First published in 2006 and updated on a rolling basis since May 4, 2018.* https://www.councilscienceeditors.org/resource-library/editorial-policies/white-paper-on-publication-ethics/3-2-international-models-for-responding-to-research-misconduct/

[3] National Academy of Sciences (US), National Academy of Engineering (US) and Institute of Medicine (US) Panel on Scientific Responsibility and the Conduct of Research. Responsible Science: Ensuring the Integrity of the Research Process: Volume I. Washington (DC): National Academies Press (US); 1992. 4, *Misconduct in Science—Incidence and Significance*. https://www.ncbi.nlm.nih.gov/books/NBK234512

[4a] Title IX is a federal civil rights law in the United States of America that was passed as part of the Education Amendments of 1972. https://en.wikipedia.org/wiki/Title_IX

[4b] Nondiscrimination in Employment Practices in Education. Employment practices contained in Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. https://www2.ed.gov/about/offices/list/ocr/docs/hq53e8.html

[5] The Sexual Harassment of Women in the Workplace (Prevention, Prohibition and Redressal) Act, 2013 is a legislative act in India that seeks to protect women from sexual harassment at their place of work. https://en.wikipedia.org/wiki/Sexual_Harassment_of_Women_at_Workplace_(Prevention,_Prohibition_and_Redressal)_Act,_2013

[6a] Promoting equal economic independence for women and men, closing the gender pay gap, advancing gender balance in decision making, ending gender-based violence and promoting gender equality beyond the EU. https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality_en

[6b] Implementation of the Employment Equality Directive. The principle of non-discrimination on the basis of religion or belief. http://www.europarl.europa.eu/RegData/etudes/STUD/2016/536345/EPRS_STU(2016)536345_EN.pdf

Evaluations of workplace bias

[7] Special Eurobarometer 437: Discrimination in the EU in 2015.
http://data.europa.eu/euodp/en/data/dataset/S2077_83_4_437_ENG

[8] Project Implicit is a non-profit organization and international collaboration between researchers who are interested in implicit social cognition and hidden biases, and to provide a "virtual laboratory" for collecting data on the Internet. https://implicit.harvard.edu/implicit/aboutus.html

Sexual harassment in academia and #MeToo movement

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** Personal account of Divya Swaminathan was first published online in 2016.*

CSG-WiS Survey 2018-19

Part I: An Unequal Support Conundrum

Part II: Gender Bias: Myth or Fact?

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