

**Women's Experience vs. Dominant Notions: Gender Politics in
the Science Institutions in India**

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At a time when the gender question in science has emerged as a major area of research interest in the west and the caste question is one of the major themes in the Indian political scene, the Indian science space is marked by the absence of voices from the margins. The science establishments and the larger science community in India believe that notions such as 'women cannot do mathematics or science operate only in the west' and gender does not make a difference from within the science institutions in India in deciding who gets to do science, thus reducing the gender question in science as something specific to the western culture. The only issue that science establishments in India perceive as women's issue is the under representation of women in science and the only cause that they are willing to address is 'marriage and family responsibilities'. While there is no data available on the representation of different caste groups in the science institutions in India, the last few years have seen some data on the under representation of women in science. Perhaps in response to the pressure building up from within the science institutions and the fact that Indian women scientists have been raising the gender issue in the international context, the government has instituted special awards and set up

committees for women in science. It has also come up with a special scheme for women, which enables them to get back to science after a gap even though the scheme states 'preference would be given to candidates having a break-in-career due to family reasons'.

Based on the narratives of the female and male scientists and the data collected from premier research institutions in Bangalore for a project titled 'Gender and Doing Science in India' this paper attempts to demonstrate how gender operates from within the science institutions in the notions that scientists hold about women's competence and commitment to do science, in shaping 'merit' and the career demands placed on a scientist, in deciding who gets to do science and in the awards and recognition given to scientists. The paper also seeks to bring out through the voices of women scientists, how the gendered notions prevalent among the scientific community marginalizes them, the sexist attitudes that they encounter on an everyday basis, the way institutions deal with issues such as sexual harassment at work place and what it means to be a woman seeking to pursue science in such a space. The difference in the way male and female scientists account for under representation and the difference in the range of issue they foreground underscore the gender politics that is alive in a space that claims to be gender neutral.

Women constitute roughly 12 percent of the scientists holding fulltime positions in the institutions under study. Their share in awards and membership to academies is less than 5 percent. Unlike their male colleagues, women interviewed for this study, come from families that valued their daughters education; they have had a consistently good academic record, have done their Ph.D's from some of the premier research institution from India or abroad, have prioritized their career demand over family, chosen to remain single or marry a scientist who would understand what it means for her to be a scientist.

Most of them have had no break in their career and have returned to work few months after a child birth, have found support from their parents and parents-in-law or others to care for their children. In response to the structured questionnaire and interviews that lasted for more than an hour male and female scientists raise a series of issues of which here I will limit myself to only those that pertain to gender imbalance.

Issues that male scientists raise in the context of gender imbalance in science can be broadly classified into three categories: (1) their explanation for under representation, (2) their perception of women's commitment to science (3) their perception of women's competence to do science.

(1) When asked to explain the under representation of women in science most of the male scientists cite marriage and family responsibility as the cause saying, women either leave science because of domestic responsibilities or marry someone and settle abroad.

(2) Many men interviewed said women are not serious about science. By this they mean (a) they expect women to get married and leave science (b) if women stay on, they expect women to prioritize their domestic responsibilities over career demand. The following statement from a male scientist illustrates this clearly. He says 'many women are not serious about research. In my family, if my wife wanted to be a careerist, it would be impossible. One of us has to sacrifice our career and it is the mother's responsibility to take care of the children.' According to another, women do not have the motivation for an independent research career and are content with supporting in someone else's lab working only from 9 to 5. Some of the male scientists interviewed declared that they would prefer to take male students saying 'If a girl tops then I will take her but if both are equal I might prefer a boy', 'some of the girls are really good; much better than the boys.

They do good bench work. But because of social pressures or personal issues, their minds are not on work. My interest is not to uplift women. I have stopped taking women. I want 7 days 24 hours work. Why should I waste my time on them?’

(3) When approached for their views on women’s competence to do science we see in the responses of the male scientists the unacknowledged, neutralised bias that operates. Most of the male scientists consider girls to be bookish and hardworking whereas boys are considered to have a better conceptual understanding and ask more questions. They explain away women’s better performance by saying ‘women are much more focused. Men sometimes don’t pay attention. That accounts for the difference in performance in exams’. Some of the male research scholars interviewed for this study confessed that they never thought girls were bright or serious about academics till they came to the institutions where they are working for a doctoral degree. A woman student from an IIT, a consistent topper was advised by her professor not to apply to the best universities abroad because being a woman she will not be able to get in and even if she did she would not be able to do well. A male scientist says ‘Women by nature are for too emotional and their minds are not tuned to logic. There is a two-year training programme that one has to undergo before one can start work on one’s Ph.D thesis. Men somehow survive but women do not. It is probably the insecurities that work on them. They want an easier path to security such as materiality.’ A very well meaning and sympathetic male scientist speculates ‘Women are bookish probably because books represent authority. Women are comfortable working under authority as the society constantly forces them in to subordinate positions’ and qualifies his statement by adding ‘there is no difference between exceptionally brilliant women and men’.

Women's experience: Women scientists, when approached for the interviews, spoke about their own experiences and that of their fellow women scientists. The range of issues women raise point to the fact that there is not just a glass ceiling but a glass wall that separates them from their male colleagues who see themselves as legitimate members of the community.

Women cite several instances when they have been denied a position for years. Women looking for positions have been asked 'are you really serious about science'. Here are some of their comments: 'some of the women scientists I know had to wait for 10 years to get a job', 'for 13 years now I have been in "soft positions- post doctoral or equivalent"' and it has been very stressful. This is happening to many women, but it does not seem to be the case for men.' 'I can say that a male scientist with the same number of publications as I have would be holding a permanent position', 'from my own friends circle some women had left science because they could not cope without a proper position', 'in my own life I have seen people with lesser ability and achievements get awards and positions while I had to struggle to get even a proper faculty position.'

Women have been told that it is not enough for them to be just good to get a job; they have to be exceptional. Often many have been pressurized by members of the scientific community to take up a job in a college. Women say 'When couples, with equal capability, apply for a faculty position, it is the husbands who get the job. The wife is given a postdoctoral position or taken as a scientific officer.' Even women who are single report that they have been offered lower positions while men with similar qualifications have been offered higher positions. Women who are married are expected to work for no

salary. They are told, “We will give you office space, we will give you a lab and all the facilities but no salary”.

Science institutions in India place a very high value on what they consider as ‘inborn merit’ and students/ scientists who are considered as ‘bright’ are encouraged to pursue areas that are considered hard for others. Women rarely belong to this exceptional category. In fact women report that they are not seen as capable of getting original ideas and are pushed more towards experimental areas than theoretical ones that call for a lot of learning and thinking or involves frequent visits to observatories. A woman scientist says ‘We are encouraged to do the work that men least like to do themselves- the routine experiments, rough calculations, shrinking data and fitting curves’. Another adds, ‘there is an expectation that in order to remain in science women should comply and do what is expected of them. And this assumes that women cannot have some independent ideas of their own. One is expected to help out with other’s students, projects and may be get a joint authorship in their papers. Many such joint works with several colleagues might count as a sufficient qualification for her to deserve an extension of the post doctoral position for another year while there are those who are perceived as bright and who get their extensions with not even a single publication’. A senior woman says ‘In my experience women in science are still taken less seriously all over the world barring for a few exceptions. Presence of women in decision-making bodies is almost nil. In India, the fate of women scientists depends exclusively upon if they are backed by male colleagues and often a woman has to put twice/thrice as much work to be noticed by any. Equally qualified male and female scientists are treated very differently’.

Just as in the west women's ability to produce good work has been suspect in India too. A woman scientist interviewed says 'I collaborate with my husband as well as with other male professors. It is always as if the ideas came from them. It is conveniently used against a woman- the work is done in her lab but the ideas come from men. I know in their heart of heart they think, it is mainly because of the collaboration with men that I have been able to publish'. Some women have been told that they must avoid joint work with their husbands as that raises doubts about their contribution. Some women who had earlier worked in the same area as their husbands said they chose to change their area of specialization after marriage so that their work is not attributed to their husbands. They say there are many instances when scientists of different competence collaborate and write joint papers but interestingly as long as they are men, questions about whose contribution is more important do not seem to be raised.

It is rarely that men interact with women academically on their own initiative. To quote a few women on this: 'men don't collaborate with women. It is often the other way around. And often men don't know what women work on', 'forever one is combating patronizing attitudes', 'most men never come to a woman to discuss subject. They would always go to another man to do that. It is not clear why this happens. If they need to design a poster or organize a function they would approach a woman first, but not when they need to discuss science. This difference in the way they interact with a woman academically would naturally make her feel she is not one among them, it would only isolate her and make her feel insecure', 'even the most sensitive male colleagues may not see us as equal to them'.

Women say selection committees consist largely of men and in a selection committee most feel they would rather choose a male student though they may not say so openly. A woman says 'If in a year all the best performers in the entrance examination and interview turned out to be women candidates, there is visible disappointment' and another adds 'Men prefer to take males students because they can be useful to them.' Women talk about how some of their male colleagues terrorize the students, in particular female students, tell them that they are not good and destroy their confidence. One scientist says 'many women students joined but my male colleagues made sure they lost confidence and left' and another says her thesis advisor threw the first draft of her thesis into a dustbin and adds 'I see similar behavior from some of the male scientists; but I have not come across women scientists who are like this'

What is not openly stated but comes through very clearly is that one would like to invest in a student with whom one could have long term collaboration extending beyond the doctoral work, who one can network with and who has a chance of being in some position of power and be able to get a post doctoral position for another of one's student. Women, for more than one reason do not fit this bill. The possibility that a woman would get married and the unsaid assumption that the responsibility of running the family is hers or that she might change her specialization to be able to find a position where her husband has a position, the institutional reluctance to give a position to women, all these are at work in shaping women's merit and also when men say women are not serious about science.

The following statement from a senior women scientist sums up the situation of science in a third world country like India and the sense of discontent voiced by many

women, at different stages of their career. 'There is no scholarship in this country. There is no one competent to read what someone has written. The recognition has to always come from outside the country. I am recognized if there is someone here who knows of me and also knows an expert in my specialization abroad, who thinks my work deserves recognition. To be known in the circles that count, one should be able lobby; of course one should be 'good', but that is never enough. What chance do women, who balance the domestic responsibility with a demanding academic career, have in competing with men in lobbying?'

Women also speak about the double standards and sexist attitudes that they encounter at work place. There are many subtle ways in which gender operates on an every basis and limits women's scope to belong as full members in the scientific community. A woman scientist says 'men expect women to always look to them for advice and expect them to listen' another says 'it is not only when they are talking science that men ignore women. They do it even when we chat about something. They cannot think that women are at par with them. In spite of the fact that men come from different generations they can get together and belong whereas neither age and experience nor ease in interaction seems to make it possible for women to belong. Irrespective of the age, women find it hard. They will not be taken in with the same kind of enthusiasm in to a group. It is very subtle. It has become innate.' Yet another woman scientist says 'men as husbands consistently apply double standards when it comes to valuing women's labor at the work place. On the one hand they demand that women put in the same kind of labor at the work place or even more than what they put in to get the same kind of recognition. On the other hand as husbands they also tell their wives that it

is enough if they do routine research. These not only leave women very little scope for self-determination, but also narrow their choices about marriage and personal life: if she wants to participate in the scientific work on competitive level, she will either have to agree to play super woman or choose to remain single'. But being single, a woman might be left out of the informal gatherings and information networks; also she may be subjected to further bias. One of the male students interviewed says 'it is a general opinion among all students that, married women are more reasonable than single women.....we try to figure out why it happens and we feel single women probably feel more insecure emotionally. The implication probably is "see what happens if a woman remains single."' A married woman scientist says 'when a married male scientist with young children spends a lot of time away from home doing science he is considered to be dedicated and if a woman scientist with young children does the same she is seen as being ambitious, selfish and uncaring'. Others say 'there are social pressures on a woman scientist to behave in certain ways. A woman cannot say she is busy as easily as a man can say', 'here it is all old boys network. The place is full of men. The male establishment is so entrenched that if you speak up you are going to be marked and isolated. That is why women find it better join with powerful men than stand up for their fellow women'.

Women also speak about blatant sexism that they encounter. A woman scientist says 'in the interviews I have seen many of my male colleagues make sexist comments. If a girl comes well dressed, they would say, 'oh! She is very pretty. We might as well take her. She might win a Miss World contest' or 'does anybody want to take her? We could

give her more marks if someone wants to take her' another says 'one of my colleagues asked me 'do you date? How do you buy so many cloths?'

Many scientists spoke about instances of sexual harassment. In one case the supervisor of a female student shut the door and threatened her. In another instance a female student was badly assaulted by a male student. There was also an incident in which a female faculty member, a single woman, faced sexual harassment from a male student and when she brought it up she was told by her male colleagues 'not to take out her frustrations on students'. Women scientists say 'we have heard of instances in other institutions as well. Pornographic mails, harassment at the observatory, harassment by thesis advisor, fellow student.' According to them the general response to instances of sexual harassment is to hush it up, though there are reports that recently science institutions have started taking action against the harassers.

Given these experiences and responses one wonders exactly what keeps women in science. A very committed scientist, highly regarded by her colleagues, says something that men find hard to believe. She says 'the only reason I am doing science is because I am truly interested in it. There is no other reason or purpose' in the sense that, she does not have to earn and support a family and she could have opted out of it if she was not serious about science. Choosing to marry a scientist and often willing to accept a position that is less than what they deserve or even willing to work with no economic support, women have traced a different path for themselves within the science community in India. If none of these count as proof that women are committed to science it is because those who are in a position of power to decide who has commitment

and who does not, had the privilege of not having to make these choices which comes from their social location as men.

Women's experiences in the science space point to the politics behind perceiving merit and problematize our notions about what is merit, how one acquires it and what we do with objective facts such as 'boys ask more questions' or 'men produce more and better quality work than women'.

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