

Psychology's Feminist Voices Oral History Project

Interview with Neelam Kumar

Interviewed by Alexandra Rutherford

Toronto, Ontario

January 25th, 2012

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NK: Neelam Kumar, interview participant

AR: Alexandra Rutherford, interviewer

AR: Can you please state your full name and place and date of birth for the record?

NK: I am Neelam Kumar. I was born in a city called Patna in Bihar, one of the states of India. My date of birth is 1955, 28th of June.

AR: I am going to ask you first a very general question. You have written a lot about Gender and Science in India. You yourself are a female scientist in India. Can you tell me a little bit about your upbringing, how you came to be doing what you are doing?

NK: That is a very interesting question. I was born in a family which was basically a doctor's family. I had lots of people in my family who were medical doctors like my grandfather, my father and my sister, my uncles and aunts, so many doctors in my family. I wanted to do something different, I wanted to study something new and different. My parents wanted me to study Biology and go for Medicine. I thought I would do something different.

We in India used to join college after tenth standard instead of twelfth. When I joined the college, there was a teacher called Sister Margaret Mary. She used to teach Psychology, she was a wonderful teacher, I tell you. I was studying Geography, Psychology and Philosophy but I found her lectures very interesting and she used to introduce very good books to us like Developmental Psychology. For each topic she used to recommend one good book so I got interested in Psychology.

I did Psychology Honours in Patna University, then I did my Masters. After that I got married, I got married to a Historian also in Academics. I then moved to New Delhi where I joined Jawaharlal Nehru University. There I did my Masters of Philosophy and then my PhD. in Organizational Psychology. For my PhD work, I was working on scientists in organizations, I studied the relationship between organizational culture and the research productivity of Indian scientists. So for my PhD thesis I studied almost 500 Indian scientists in 4 different cities (Delhi, Calcutta, Pune, and Hyderabad). I studied scientists working in university settings and scientists working in national lab settings. At the time, I was not taking gender as a variable, I was not concerned with gender issues in science. I was looking at the relationship of social processes and research productivity.

Once I finished my thesis and later on when I was playing with my data to see what other kinds of relationships I can find, the one thing that struck me immediately was that the number of female scientists was very low. Out of 500, only 56 were female, I got curious why the number was so low. If the number is low, do female scientists lack somewhere or are they comparative to male scientists? I took a random sample of almost equal number of male scientists to the 56 females, I selected 61 men. I compared the men to the women in various issues like their research publications, the one thing which is always being talked about is that female scientists are less productive and that female scientists have less research publications. This was a big question before me. Are females doing equal number of papers? Are they different in terms of research? Are they different in terms of related attitude? Are they different in terms of social economic background? In India, there is one more factor which is really important which is the rural-urban divide. I was curious are female and male scientists different in terms of their social economic origin and social economic background? Are their parents equally qualified? Are they from poor families?

I compared social economic background, rural urban origin, number of papers, research related attitudes. I compared them in terms of these factors. To my surprise, these female scientists did not differ in terms of numbers of publications but they did differ in terms of rural urban background and family socio economic class. Most of the female scientists were from a select urban and higher class background. Most of the female scientists' parents were either themselves professionals or working in a higher position job like senior bureaucrats. Most of them were from high economic backgrounds. But in terms of research relates attitudes they never differed, they never differed in terms of number of papers, though their mean number of papers was a little lesser, this difference was not statistically significant. But they did differ in terms of one important factor: academic rank. They were doing equal kind of research but they could not achieve similar rank. Most of them were stagnating in a lower rank, in the assistant professor rank. Their career graph was much slower. They took longer time in each rank. In general, when I looked into the Indian science scenario, I could find that there are lesser number of female professors in various academic disciplines, lesser number of vice chancellors, deans, women were missing in all important academic positions and funding bodies. Women were missing, even if they were present they were present in lower levels. Another thing I noticed was that most female scientists were doing technical work. They were not doing actual science. Even now almost 15% of scientific personnel are women. In universities, not more than 6% of the professors are female, in my sample only 3% of the professors were female. That is how I got interested, just by playing with my data. I found that gender is an important variable. I then wrote a paper and published it in Indian Journal of Gender Studies. This was my first paper. Then I got more and more interested and I organized one international conference *Is the Glass Ceiling disappearing?*

AR: You mentioned that one of the major variables that seemed determinative of the small number of female scientists was socio economic background and having professional parents. You yourself described coming from a background where many of your relatives including your female relatives were medical doctors. Did that have an influence on your development?

NK: To be very honest, at that time I never thought about it. They never acted as my role models. As a kid I was fed up of seeing doctors in my family. Still to be very honest, I did my PhD thesis,

I took a course on gender issues for my Master of Philosophy as course work. We had courses in Psychology of Education, Sociology of Education, History of Education, and Economics of Education. My Sociology teacher used to talk about gender issues, she herself was a feminist, but I was not very sensitive. I did not pay that much attention, I did not realize that there was a whole world that belonged to females.

At home, I was never discriminated against by my bothers, I was treated equally at home. My husband himself is an academic, at home I used to do the household work. He used to help me a bit, but even then gender questions never occurred to me. Just looking at the data and realizing that the number of females was so low is what struck me. Then I went through the literature and then I realized that science is gender biased. Earlier, I never questioned the belief that science is objective and neutral.

AR: I know you have written some analysis looking at whether there are clues within the Indian context for why female scientists do not occupy the highest ranks in India? But you have also problematized that a little bit in terms of should we see the national situation in India as different from anywhere else? Or are there also commonalities?

NK: In India, when you look at female literacy, it is very low. In India not all females are getting education, forget about Science. Science is a dream for them. Most of our village girls are not getting an education. India has a patriarchal society. There is a lot of discrimination in the houses, more money is spent on food for sons, and nutritious food is given to boys. This was the common practise. Now things have changed a lot thanks to demographic changes. Now most of the Indian families especially in the cities, there are only two kids or one kid. If there is only girl child, she is quite pampered. In earlier times, there were several children at home, girls were neglected to a great extent, in terms of nutrition and education.

India is a hugely populated country. To get admission into a good college in India is very difficult. In our system is very competitive, after schooling children have to compete for engineering schools and medical schools, those are really tough to get into. There are coaching classes to give them extra lessons for engineering entrance and medical entrance. These are really expensive. When we go to Engineering coaching classes, most will be boys. In Medicine, you will find girls.

There is a relationship to our history as well. India was a colony. At the time the British government's policy was to introduce medical education to women as well. They did introduce medical schools to women.

There were separate medical colleges for women. Engineering was neglected. Introduction of medicine to women was important because in India we had a *purdha* system. Earlier no female would go to a male doctor, that was the reason they introduced medicine to females. They used to get medically trained females from the U.K. to India. Medicine was one of the disciplines that was open to females as early as 1886. Three women would get into medical college in the 1880s. One of the females called Anandi Bai Joshi came all the way to Philadelphia to get a medical degree. Unfortunately, when she went back she died. She was the first female Indian to get a medical degree in 1886. In India, another female in the same year got her medical degree.

Women were exposed to medical education as early as 1886. Medicine is one discipline where you will still find many females. A large number of women are doing Biological Sciences, Medicine and Social Sciences. In Engineering the percentage is very low. Till 1970's it was less than one percent. This has changed a lot. In fact you will find changes in all the disciplines, in most of the disciplines you will see an increase in the trend in each discipline. The trend is on the increasing side but we still don't have total literacy.

AR: Based on your work, what would you see as the main reason why women are not achieving the highest levels?

NK: To a great extent, there is still discrimination. Women have to work harder to prove themselves. This is not just in India but all over the world, the scenario is more or less similar. The number of female professors is extremely low. Even in the U.S, which has a high percentage, only 21% of professors are female. Gender and Science is one issue which transcends cultural barriers. If you take any divide of the globe, north or south, east or west, developed country and developing country, traditional society or modern society, any divide you take you will see that there is gender discrimination in science. In terms of gender and science, the scenario is more or less similar all over the world. This is surprising and really a big question. How is Gender and Science universal?

AR: Its true and it is disheartening. Are there active efforts among other scholars, policy makers, politicians to address the scarcity of women in the higher echelons of the scientific professions?

NK: In India, there are some initiatives, the Department of Science and Technology have some initiatives for women in Science but those are not much. They are giving fellowships to female students who have done their PhD and left their career. They are inviting proposals from them. Coming back into Science is not easy. They are not coming back into Science, they are coming back and doing more technical jobs. It is very hard to come back.

AR: If you have been out, it's hard to come back.

NK: Every year we hold the Indian Science congress. This year the focal theme was Women and Science. I was invited to a special symposium. There are some initiatives on paper and on talk they do discuss it but what is really happening is a big question.

AR: That is not unusual, lots of talk but no action.

NK: Still the scenario is more or less gloomy.

AR: What would you recommend as strategies for attracting women into science and keeping them in science? In the Indian context or more broadly?

NK: In my view, it has to start within the family itself. Most of the time girls are looking at their mothers. They spend time in the kitchen. They don't use gadgets which the boys use. Boys are interested in watching television, playing with cell phones and computers. Most of the girls don't

get attracted towards those games. It starts within the family, girls are supposed to cook, look after the house and they try to copy their mother.

In schools things must change as well. Many times it is felt that girls are not good in Math and Science. Many girls also think that Science and Math are tough. These kinds of stereotypes make a deep impact.

They move away from Science and Math. Once they are trying not to do mastery of Science and Math, they move away from Science and Math. Right from the childhood, there should be an emphasis on the mastery of Science and Math. Once there is mastery over Science and Math in childhood, things might change at the college level.

Even after graduation and post graduation, many of the girls leave their career to get married. In India, marriage is very important. Most of these females are not able to study after marriage and go on with their career.

Things have changed especially in cities. These days you will find a lot of changes. More girls are entering to Engineering and Science. Most of the females are now working but I have marked one difference. If a girl has done medicine, the chances of her leaving her career are very low. Once women do medicine, they do either private practise or work at the hospitals. Once women have done engineering, they go to industry and start working. For the initial few years they are fine. But after there is a break in their career, for example after marriage and motherhood, many of the women will withdraw and are not able to move on with their career.

AR: Is that because in terms of medicine women have a more established presence so they have figured out how to combine marriage, motherhood with a medical career whereas in engineering there are so few females?

NK: There are few and [it is] more demanding. The private companies are really demanding, they want work out of you so they are not concerned. I think that is one reason why they can't move ahead in the Indian companies.

AR: Engineering everywhere seems to be completely male dominated.

NK: These days many of the boys decide to do Business Management. Most of the boys are doing Economics, Business Management and Engineering; these are the three disciplines that are highly in demand.

There is a small worry if most of the boys are doing Economics, Business Management and Engineering and not doing Science, if girls are mostly going towards Science. There is a strange relationship between the prestige of the discipline and the number of females. Once the discipline is considered feminine, the prestige goes down. I will give you the example of psychology. In my country especially, most of the students that do psychology are female. Therefore, it is considered a feminine discipline. In our classrooms, there were hardly two or three boys. We used to sit inside and chat and shout until the teacher would come.

These poor boys would wait outside until the teacher comes in and then they would come in. In the History department or in other departments, it used to be the opposite. Girls would stand outside and be scared to come inside.

This has happened in the historical period also. Botany was considered feminine once upon time but the moment Linnaeus came, it became a prestigious discipline.

AR: Women get forced out when the prestige goes up.

NK: Similarly in India, most of the industries like textile industries used to employ women. When most of the work was done manually, most of the workers in the textile industry used to be female. Once the industry became mechanized women were thrown out. The textile industry is a brilliant example of how technology can drive women out. Science is considered masculine but technology is even more so.

AR: I want to go back to Psychology considering this is your home discipline. You are trained as an Organizational Psychology. Is there much of a presence in India of feminism in Psychology?

NK: This is a very interesting question, thank you. Most of the psychologists use gender as a variable, not even gender, they will use sex as a variable. There are differences between boys and girls. They compare the two groups, boys and girls. They will say that there are differences but they will not look deeper. They do not look at why they are different and how this is associated with gender. Many are not even aware of gender differences, they just only use it as a variable. That is really disheartening. I do not think that feminism has entered in a big way into Indian Psychology.

AR: Any sense of why that is given that there has been an active women's movement and there are other areas of academe that have been affected by feminism?

NK: Feminism to a great extent was there and it was associated with the National movement. There were feminists. Feminism was associated to a great extent with politics. We used to have a female Prime Minister, we currently have a female president in India. In politics you will find many more females. During our political movement or national independence movement, women have participated in a big way. Even Mahatma Gandhi's wife was quite active. In the true sense if you take feminism, we never lacked feminists in India. There were feminists in India, even now there are strong feminist scholars like Vandana Shiva, she is known all over the world. The feminists we have are either in Sociology, Political Science or some are historians. But in Psychology we don't have a strong feminist movement or a strong flavour of feminism.

AR: Do you consider yourself a feminist psychologist?

NK: This is a very difficult question. I would call myself a person of Psychology of Science. My major area is Psychology of Science. In Science I have looked into gender issues. Gender issues in Science are really bugging me. I am quite worried and concerned about the gender discrimination in Science. But in Psychology... In fact in India there are a lot of females who

who study Psychology but if you look into the departments, even there, there is not a good ratio of women professors.

AR: Even there, they do not get to the highest.

NK: Even there. I should look into those issues within psychology.

AR: Your area of study has been much broader than psychology, it has been all Sciences. It was so interesting when you talked about the hierarchy in a way. Women are better represented in Psychology, Biology and clinical areas like Medicine and those tend to be lower on the hierarchy of Sciences in terms of prestige. I think that pattern is replicated elsewhere.

NK: Even within once particular discipline like Physics or Engineering. Not all sub disciplines of Engineering or Physics are done by women. Most of the women prefer Computer Science or Computer Engineering. Even within Engineering, there are sub disciplinary differences in terms on enrollment in India and I think elsewhere also.

AR: Let me ask you a little bit about your work about values. You have done some work that looks at scientific values and the values that scientists hold in India and elsewhere. Can you talk a little bit about that work and what that work has shown?

NK: One of my studies has compared a small number of Indian scientists with French scientists. I have found that as far as research related attitudes or values, Indian scientists are not that different.

AR: And male and female scientists are similar as well.

NK: Similar as well, in terms of research related values there are no differences. Research related values are more or less similar. I think that it has to do with the professionalism in Science. Most of them are guided by the so called Scientific method and scientific values.

AR: I see that as very feminist, I see that finding as very congruent with the feminist analysis in terms of locating the obstacles to women's advancement in the way Science is structured as opposed to some individual differences in scientific values or research productivity, although productivity has structural constraints. I think that is very interesting.

NK: In fact in terms of productivity even in America, till 70s there used to be people who claimed that the number of papers by female scientists was lesser. The latest research even in the United States has revealed that there is not much difference in publications. In terms of research productivity, females are not lagging behind.

AR: We have spoken about a little about this in terms of your own upbringing but let me ask you a little more directly, have you felt like you have ever experienced discrimination based on your gender or any other variable, have you experienced any barriers because of your gender?

NK: Many times we don't realize that we are being discriminated; I think this is true with most of the women scientists in India. When asked if they are being discriminated, most women would say no. Either we are socialized in that manner from our childhood or we are used to it. Sometimes we are not critically evaluating it and sometimes we do not want to admit it. In general, I have never heard from a female scientist that she is being discriminated against. Personally, I think I have experienced discrimination at some point or another. For example in my own house, I do cooking. My husband sits at his desk most of the time. He is hardly bothered whether the children are getting food or not. Fathers are not concerned, they will look after the house to some extent. As a mother, I am the one who is concerned. Whether we agree or not women are being discriminated.

I work with a research institute. I leave at about nine thirty in the morning and come back at six thirty in the evening. When I come home, I am supposed to make dinner and make tea. My husband is in the campus, we are residing in the campus. His office is a few minutes' walk. For him it is quite convenient and comfortable, staying in the campus is not much of a trouble. He takes classes occasionally. In the evening, he is still tired.

At home as well, when I was an adolescent and my brother used to go to coaching classes, I never had the opportunity to go to coaching classes. After my graduation I wanted to explore whether I can appear for civil services. In India, to compete in civil services is very tough, I was curious if I should try for civil services. I asked my parents and brother if I should attend coaching classes. My brother told me that girls do not attend coaching classes. The coaching classes were held at a hotel room. That time the coaching school did not have their own building. It is in a hotel and that no girls are coming so you should avoid it what I was told by my brother. My brother was going, I was not allowed. This was discrimination.

I was studying in Patna. Some of the universities in Delhi were much better. My parents said that if I wanted to study outside of Patna, it had to be after my marriage. Once you are married you are free, you can join your husband and you can study wherever you want is what they said. When I was doing my graduation Honours in Psychology, my elder brother came to Canada to do his PhD at McMaster University. He used to write back to me that Canada and the U.S. has a lot of opportunities for psychologists so he said that I should be the person to come abroad. My parents did not send me abroad, they did not even let me study in Delhi.

At that time, I did not feel that there was discrimination. When I look back, there was discrimination. I was a good student but I was not allowed to move out of my own town. Then I got married and I qualified for the Jawaharlal Nehru University exam, I got admission and I did attend classes for some time. I was expecting my first baby and was not well. I was advised medical rest. Then I had to leave my studies for some time. Then I again joined the university.

During my career, I was definitely once denied a promotion. In India to go from one rank to another rank, you need to go through the interviews and your publications are also looked at. I had good publications in SAGE journals and my interview was also good. Later on when the result was declared, I was denied the promotion. I was not able to make out why. The director of my institute at the time did not tell me anything, at the time it was not discussed, I also did not

ask. Later on when my director was retiring, he said that he was really sorry. I asked him what the need of saying sorry now is when it does not make any sense. I also never asked him why I was denied the promotion. He said “Sorry that I do realize that you are a sincere worker and that you are doing good research, you should have been promoted.”

It is easy to deny promotions to female scientists. My male colleagues will howl and shout, they will cross examine, they will make noise. We don't even ask. I [too]did not even ask what the reason was.

AR: It's not something that women and girls are socialized to do.

NK: We are socialized in that manner. To be very honest, it never occurred to me that this was discrimination or that it was due to my gender. When I look back I can see that maybe a gender issue was there. The director knew that I would never raise my voice or question. Still it is difficult to believe why this was done.

AR: Given your work in Gender and Science, would you have any advice to women coming to the Scientific profession on how they could further their careers in India?

NK: I would tell girls to love Science. It is a wonderful world. Studying Science should be a girl's priority.

In India, they can switch over from Science to Social Science but the reverse is not true. Once you have opted to Social Science, you cannot go back to Science. Once you have done Science, you can switch to Social Science or any other discipline. I would advise the young girls to study Math and Science for some years. After that if they do not like it, they can leave it. If they love Science, they should make a career in Science and Engineering.

I think that giving up Science or your career at any stage should not be a consideration for girls. They should try not to leave their careers. Any amount of hardship should not stop them.

AR: Have you had any role models in your career?

NK: Not really. The only thing which struck me was here is a very a good teacher. She was an excellent teacher, she used to devote time. She used to tell us about various books. I used to like her but I don't think I had any role models in particular.

AR: Is there anything that I have not asked you in this interview that you would like to share with us for this project?

NK: Rather I would like to ask you about the situation in Canada. Unfortunately, I have data regarding various parts of the world but I do not have data on Canada. In the U.S., you can get data on women in Science using NSF (National Science Foundation) regarding the status of women in Science and Engineering. I have not seen such a database in the context of Canada. I do not know if your government keeps track of these things.

AR: They do keep track of these things. About a year or two ago, I was forwarded a report on Women in Science, I believe. I am going to see if I can dig that up. I kept it for reference. It was a government body that produced it.

I personally know that I do not know a lot about women in Science as I know about women in Psychology which is an interesting story here.

To finish this out, maybe you can talk a little about your forthcoming book.

NK: My book also lacks this data; I have not discussed Canada in my book. For my forthcoming book, it's called *Gender and Science: Studies Across Cultures*. It has data from different parts of the world: India, France, Netherlands, Saudi Arabia, and South Africa.

I was very happy about Saudi Arabia. I could invite some scholars from Saudi Arabia. This was the first time that female scholars came from Saudi Arabia to participate in an international conference. There was also a delegation from South Africa. The Minister of Science and Technology from South Africa also came, she inaugurated my conference. She later on became the president.

The Saudi Arabian scholars were also very excited. Saudi Arabia has a very short history. Only in the last thirty years, did they become involved in education and studying but they have done really well in this short span.

Some of the European countries like Sweden and Netherlands are very egalitarian. There are very good in terms of other things but as far as Science is considered the situation is not that bright. Gender and Science has an international problem, the problem is more or less the same across the world, there are some cultural differences. Some of the social psychological factors are playing an added role. Most of the social psychological phenomena have lots of cultural variations, but Gender and Science does not vary from one culture to another. Even the social psychological factors behind the issue are very similar.

Sometimes there are added problems. India [for example] had *purdha* system. In India girls, especially, in villages are not sent to coeducation schools, they are not given a proper education. Only the amount of education necessary to get them married. In India, marriage is the major concern, not their education or career.

To my surprise, even some of the Europeans countries are doing badly in terms of women doing Science. Even the Netherlands is very poor.

AR: Tell us a little bit about the relationship among motherhood, marriage and research productivity.

NK: This is a very important issue. In fact, most of the time it is believed that women are less productive compared to men and that they do a lesser number of papers and publications because of marriage and motherhood. There are very interesting studies especially in the American context. One of the studies was published in the *Scientific American* in 1986.

That study showed that marriage and motherhood does not relate to research productivity. Rather married women with children were more productive than single women. Even the latest research in the American context has shown that marriage and motherhood has nothing to do with research productivity. It is thought that women are not committed to their research because women are spending time with their families. It is believed that women spend more time with the families than in the lab. This is not true. The latest research in the American context has shown that marriage and motherhood does not affect research productivity.

In the Indian context in my own sample, I have not seen much of a difference in research productivity between females and males but my sample size was very small. Also when I collected data, I never had gender issues in my mind, I did not ask if they had kids or were married. I just asked whether they are male or female because when I started my study I was not looking into gender issues. My questions were not framed to look at that issue. I did not take motherhood into account. But certainly gender differences in research productivity are not there in my sample.

In other studies as well, it has been found that women are better in terms of the quality of paper, in terms of quantity they do not differ. In terms of quality of journals and citations, women are doing better than their male colleagues. The reason behind this is because women are very careful in terms of their publications. They do not send their papers easily for publications. There is a beautiful study called *Wait a Minute or Go Ahead* which reveals that women tend to revise their papers several times, only then they send their papers for publications. Male scientists are casual in sending their papers for publications. Marriage, motherhood and research productivity was a puzzle. There was a paper titled the *Productivity Puzzle*. The latest researches have also not been able to solve this puzzle.