Changing Patterns of Work–Life Balance of Women Scientists and Engineers in India

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India has witnessed a steady rise in the number of women scientists and engineers in the last two decades. At the same time, the country has experienced the transition from the joint family to a nuclear family system. This has brought with it unique challenges for the women professionals as they negotiate their roles in families with successful careers. While documenting and analysing the changing patterns of the work–life balance of women scientists and engineers, the article highlights the critical role that the scientific institutions can play as enablers in this process.

Keywords: Work–life balance, women scientists, women engineers, women in STEM, scientific institutions

Historically, all over the world, men have dominated the field of science and technology. Women's entry into scientific disciplines was the result of a long struggle (Bacik & Drew, 2006). The reasons were, first, women were assumed to be unfit to carry out scientific research (Agogino, 2007; Saini, 2017); and second, it was a well-accepted notion that the ideal place for a woman is the domestic sphere and her ideal job is that of a wife and a mother (Seymour & Mukhopadhyay, 1994). Those days are now long gone; women now actively engage with scientific institutes. In fact, there has been a steady rise in the number of women in STEM disciplines in India over the last few decades post seventies. However, the gender break-up of enrolment by disciplines has been available in India post-2010 only through All

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TABLE 1
Gender Distribution of Undergraduate, Postgraduate and PhD Enrolment in STEM
Disciplines[1] in India (2011–2019).

Year	PhD		Postgraduate		Undergraduate	
	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)
2010–2011	33.78	66.22	41.78	58.22	37.27	62.73
	(14,110)	(27,668)	(307,043)	(427,976)	(1,730,239)	(2,913,229)
2011–2012	36.33	63.67	46.12	53.88	39.39	60.61
	(15,193)	(26,631)	(394,359)	(460,849)	(2,408,474)	(3,705,426)
2012–2013	37.20	62.80	46.78	53.22	39.37	60.63
	(18,408)	(31,071)	(466,427)	(530,642)	(28,451,270)	(4,382,273)
2013–2014	36.17	63.83	48.22	51.78	39.38	60.62
	(21,442)	(37,851)	(544,357)	(584,750)	(3,405,805)	(5,243,741)
2014–2015	36.86	63.14	50.12	49.88	39.64	60.36
	(24,324)	(41,657)	(586,533)	(583,743)	(3,896,514)	(5,933,458)
2015–2016	37.21	62.79	51.82	48.18	40.13	59.87
	(27,430)	(46,273)	(593,931)	(552,117)	(4,103,094)	(6,122,515)
2016–2017	39.12	60.88	53.39	46.61	40.94	59.06
	(31,435)	(48,924)	(610,977)	(533,220)	(4,331,360)	(6,250,314)
2017–2018	39.96	60.04	55.68	44.32	41.91	58.09
	(38,490)	(57,809)	(901,117)	(717,424)	(4,494,337)	(6,228,718)
2018–2019	40.81	59.19	56.11	43.89	43.28	56.72
	(40,396)	(58,613)	(635,364)	(497,020)	(4,558,856)	(5,976,690)

Source: Data compiled from AISHE Annual Report, MHRD, GoI.
Note: The actual numbers are represented in parenthesis.

India Survey on Higher Education (AISHE). Table 1 represents the annual trends of enrolment by gender at the undergraduate, postgraduate and doctoral levels from 2010 to 2019.

As illustrated in Table 1, the numbers of women at all these levels are very encouraging and starkly contrasts the trends of enrolment of women in STEM disciplines in developed countries. In fact, unlike the countries in the West, the leaky pipeline for India is not at the college entry level but after the enrolment of women at the PhD level (Kurup, 2019).

Despite the steady rise in the number of women in the STEM disciplines, the translation of the same on the number of women faculty is yet to be seen in India. The science institutes remain hierarchical and patriarchal in their conceptualisation (Acker, 1990; Connell, 2006; Newman, 1994; Saini, 2017). However, despite the lack of sufficient institutional support, the few women who entered these scientific institutions have made critical contributions to science and gained recognition within the scientific community. This article is an attempt to celebrate and critically analyse the success of women in STEM disciplines in India.[2] It maps the multiple ways in which women in STEM disciplines in India construct their work–life balance.

Work–Life Balance: The Shifting Trajectory for Women

The term 'work–life balance' is defined as striking a balance between one's professional life and personal life (Delecta, 2011). Although the term 'work–life balance' originated in 1986, its usage in terms of meaning has been prevalent in workspaces since the 1930s (Lockwood, 2003). In recent times, everyone seeks a work–life balance, since having a good work–life balance not only reflects higher productivity but also contributes to one's own health (Galea et al., 2014; Lockwood, 2003; McGregor, 2013; Sturges, 2012; Sturges & Guest, 2004; Watts, 2009). Research studies point out that the concept of work–life balance was introduced to make the workplace more conducive for women so that they can perform in their roles as an employee and fulfil their household duties, simultaneously (Smithson & Stokoe, 2005). However, in India, the concept of 'work–life balance' as an important pillar in the industry is still emerging and is limited to only a few work sectors (Pandu et al., 2013). Although the concept of work–life emerged as a gender-just concept, it was pointed out that it should not remain limited to only married women (Aldoory et al., 2008). Limiting the concept of work–life balance to only married women reinforces the same gender norms where 'life' in the 'work–life balance' becomes synonymous to 'family' which is still considered the sole responsibility of a woman (Chawla & Sondhi, 2011; Shankar & Bhatnagar, 2010). Hence, to broaden the concept of work–life balance, it is important to understand that such a balance is not limited to married women but extends to include married men, unmarried men and unmarried women (Caudill, 2013; McGregor, 2013; Murdoch, 2012; Wilkinson, 2018; Wilkinson et al., 2017; Wolfe, 2018). This becomes even more important as societies and families are creating new norms that are working towards redefining gender roles in families. A significant point to note here is the fact that whether one is married or not; running one's home is a responsibility that involves time and energy.

Women Scientists and Work–Life Balance in India

As mentioned, previously, the article is based on the narratives of 130 women scientists, out of which 114 women scientists were married and only 16 women were unmarried. Although the article acknowledges the importance of having an inclusive concept of work–life balance, it will focus on married women scientists and how they strike a work–life balance. We believe that it is important to highlight the journey of the married women scientists of India because it is widely believed that to have a successful career in science, women cannot have families; to put it differently, only unmarried women can have a successful career in science (Bailyn, 1973). Contrary to this, the data from India indicates that there are numerous married women scientists in India who have developed interesting arrangements to be able to be successful scientists and equally accomplished homemakers (Kurup & Maithreyi, 2011).

Indian society reflects patriarchal norms and has rigid gender roles that are to be performed by both men and women (Seymour & Mukhopadhyay, 1994). The primary role of a woman is still considered to be that of a housewife and, ultimately, that of a mother (Seymour & Mukhopadhyay, 1994). In such a scenario, having a strong childcare support system becomes crucial for women to also have a successful professional life (Duncan, 2007; Ezra & Deckman, 1996; Press et al., 2006). Literature on working women and childcare emphasises on how work institutions/the state should provide an efficient childcare support system so that a woman can fully participate in the labour force (Duncan, 2007; Ezra & Deckman, 1996; Saltzstein et al., 2001). However, that kind of institutional childcare support structure in India is still a work in progress and will require substantial time to be fully developed and functional. Despite that, data from our research shows that women in India or women scientists survive this system by adopting a combination of childcare support systems and by developing a number of negotiations and coping mechanisms at various levels in order to have a balance between their personal and professional life (Duncan, 2007).

How Do Women Manage Both Family and Work?

Most of the women scientists in our sample were married and shouldered the responsibility of managing their home and taking care of their children and elderly in the family. These women chose to have a career in STEM disciplines, while simultaneously having a family life. Since women scientists who opt out of STEM disciplines cite the challenges of maintaining a balance between their familial responsibilities and the demands of a scientific career as a key reason, it would be interesting to see how the women in STEM strike a balance between their personal and professional life (Kurup et al., 2010; Schneider et al., 2011). In the following sections, the article will explore the following question: What are the available structures and support systems that enable the work–life balance for these women?

Changing Family Dynamics and Prescribed Gender Roles

Indian society represents a complex social fabric where societal and familial roles are assigned by gender. The caste, class and religious identity along with the rural–urban divide are important variables that capture a wide variety of patterns of the changing gender roles within society. These variations in the landscape of India also impact the distribution of women in paid work particularly in professional roles in the domain of STEM. Notwithstanding the above complexity at the national level, women and men are assigned certain gendered roles: man is considered to be the main breadwinner of the family, while woman is mainly viewed as the caregiver in the role of a wife and a mother (Rajadhyaksha et al., 2015). However, over time, this attitude is changing, as women are no longer willing to be confined to the home and are joining the workforce in large numbers, not out of necessity but as their

choice (Doble & Supriya, 2010). But the choice of becoming a working woman does not automatically liberate them from the traditionally prescribed gender roles. However, it is evident that women are working towards redefining these roles to enable them to be successful at work. Thus, a shift in the familial setting is clearly visible (Pandu et al., 2013). This change in the dynamics of the family structure and gender roles happens at various levels, and this becomes one of the important factors that contribute to women being able to balance their professional and personal life.

Supporting Husbands/Partners

An important factor that enables women to manage their personal and professional life is having a supportive husband (Connell, 2005). All married women scientists who were interviewed as part of this research emphasised the importance of having a supportive husband to strike a better work–life balance.

Men in Indian society are generally considered as the breadwinner of the family (Pradhan, 2016). Traditionally, they were not expected to participate in household activities involving child-rearing or other domestic responsibilities. Their absence from familial affairs has mostly been compensated by the fact that they are the sole provider of the family (Aldoory et al., 2008). But with changing time, a shift in gender roles is observed as men are challenging the rigidity of the assigned gender roles by participating more in the household management (Connell, 2005). In addition, women who were confined to the homes are moving to the public sphere and are contributing to organised paid labour. These changes are not uniform and assume different forms as men and women negotiate their roles and responsibilities in a fast-changing society where the contribution to the family income is no longer a male prerogative. The change in the gender roles is predominantly more visible in cities among the middle and upper middle-class families. However, this is not true of all families within these classes and women struggle to mediate the gender roles in the family.

Men are asking for better work–life balance from their workplace so that they can get more involved in their children's lives, be part of the entire child-rearing process (Buddhapriya, 2005). They want to dedicate more time to their families and want to be more involved in domestic duties, and in the process, these men are challenging the gender norms. Leela who works as a professor at one of the NITs explains how her husband sacrificed his career so that she can manage both her family and her work. She explains,

> My husband was the man behind me, and he supported me a lot. When my guide relocated from Kochi to Kerala, I had to travel to Trivandrum several times, with a few-months-old baby in tow. I had to take him along, there was no choice. Usually, it is a woman behind a man's success, but in our case, we have mutually supported each other.

Similar to Leela's experience, many men relocate in order to facilitate their wives to continue their career. The question is how does the shift in gender norm help women

strike a balance between their personal and professional lives? In India, having a supportive husband becomes important for a woman to have a successful career. Unlike the West, where working couples have distance marriages, the trend is relatively new to India and is practised by a small number of individuals. After getting married, women are expected to take care of the family members, fulfil household duties and start a new family with the husband. Sometimes, women are also expected to drop out from pursuing their degree to relocate to the place where their husbands reside (Seymour & Mukhopadhyay, 1994). The biggest disadvantage for women in India is the fact that married women shift to their marital home to build the next phase of their life. The geographical shift to a new physical space with new members and already established power relations puts the young bride at a disadvantage. Most of the times, the in-laws do not approve the decision of a woman to continue her studies after marriage, and hence, the support of her husband becomes crucial to continue her journey in higher education and build a career. For example, Sindhu who works as Scientist G at a Central Research Institute narrates her story on how her husband went out of his way and supported her to start her career. She says,

> I applied to three places and I got three appointment letters. One was from IIFM, Bhopal, another from Remote Sensing Application Centre, Lucknow, and the third from Remote Sensing Application Centre of Hisar … [but] my father-in-law did not allow me to go to Bhopal and Hisar. I was allowed to go to Lucknow just because my sister-in-law was there. I had a 9-months-old son. My husband was 100% supportive. He said he will arrange everything for me over there so that I could do the job easily.

Unlike in the West, marriage in India is not between two individuals but is considered to be a beginning of a new relationship between two families, where the bride becomes a part of her husband's family. Despite the crucial role played by the husband to support his wife's career and provide adequate conditions to sustain a work–life balance for his wife, there is an additional challenge of changing family dynamics and traditional gender roles and norms, which are entrenched and exceptionally difficult to change. It is true that in recent times, one can witness a change, but nevertheless, women remain the prime caregivers of the family. Women are still expected to sacrifice their career, if required, for the good of the family (Aldoory et al., 2008; Hantrais & Ackers, 2005). The decision to leave their newborn child at home and join work is personally a difficult choice for women. The guilt of whether the choice is a right one or whether the age of the child is appropriate for it to be cared for by others has always been daunting for several professional mothers (Guendouzi, 2006; Marshall & Tracy, 2009). For example, Neeru who works as an associate professor at one of the NITs explained how after joining as a lecturer at the institute, she enrolled for a PhD at an institution of national importance in another location from her working institution. This meant that she had to leave her child at home with her husband and move to the new location. That caused her immense guilt, and she says,

I had one child; I did not take her with me … but I wanted to take her. My husband preferred the other way. He said, let her be here in Calicut itself, you can concentrate on your work and the daughter will be more secure here. I felt extremely guilty. After that, I promised that I will never leave my kids for my job or for my studies; I will take them along with me, otherwise, I will not leave, I decided.

At the same time, the women scientists also regret missing a professional opportunity that required them to spend longer periods of time away from the family. But here, they did not report feeling guilty in the same tone as when they had to leave their young child behind for higher studies or to take up a job. It can also be explained by the fact that gender roles in relation to the family are deep-rooted and women consider family as their primary responsibility.

In this section, we discussed the role of a supportive husband, who not only facilitates the woman's career but also shares household responsibilities. The extension from passive support to active support where women are not burdened with dual and sometimes triple roles to participate in domestic responsibilities makes it easy for them to have a balance between their personal and professional life. Apart from having a supportive husband, women also need a trusted and excellent childcare support system to maintain a work–life balance. In the next section, the article will discuss the various childcare support systems that were available to the participants of this research.

Childcare Support System(s)

As mentioned above, the literature around childcare support system argues that institutional childcare support system is critical for women to have a career (Duncan, 2007; Ezra & Deckman, 1996; Saltzstein et al., 2001). In 2017, Ministry of Women and Child Development issued guidelines titled 'National Minimum Guidelines for Setting Up and Running Creches' under Maternity Benefit Act 2017 which make creche facility compulsory for every establishment that has fifty or more employees.[3] Karnataka became the first Indian state to implement this policy. However, the implementation of this law has yet to become a reality for several organisations. In cities like Bangalore that has a huge space crunch, it is hard to establish in-house childcare facility (Soman & Sharoff, 2019). In such situations. companies look for external facilities. For example, companies such as TCS, Accenture, Aditya Birla, Microsoft, Tesco and Wipro have tie-ups[4] with WeCare which is, 'Bangalore's largest and professionally run day-cares and preschools'.[5] However, it has been highlighted that these facilities have not been successful because of various reasons of which distance from home is one of the main reasons. It has been noted that female employees prefer to use private creches near their houses in order to save travel time (Soman & Sharoff, 2019).

The demand for on-campus housing and excellent childcare and elder care facilities as well as professionalised domestic help agencies are critical and will

have a much positive impact on the productivity of the women professionals (Kurup et al., 2010). The proximity of the childcare facility not only reassures a mother of the possibility of easy reach during an emergency but also eases out the difficulty of travelling to multiple locations between work, childcare, school and home. In other words, the arrangement of childcare facilities at the institution are also more time efficient. The emphasis has always been on developing better state-sponsored childcare support systems and how the existing ones needs to be perfected (Duncan, 2007; Ezra & Deckman, 1996; Saltzstein et al., 2001). One of the reasons for the absence of the state-supported childcare system in India is, until very recently, the joint family and extended family system was predominant in India. The state-funded institutional childcare support system is still developing in India and the few which exist are in such poor conditions that women are not confident to leave their children in these centres (IFC Report, 2019). For example, Reena who works as an associate professor at one of the NITs talks about the difference between the day care facilities that exist in India and in Japan, and why she does not trust Indian day care facilities. She narrates,

> When I was in Japan, there was an excellent day care facility available in that institute. It was a little bit costly, but the care provided was very good. I had the freedom to go and see the kid during work, that is, during lunchtimes and break times. The day care was located within the campus. Such day care facilities are not available in India particularly in small towns. There are many day care centres here, but you do not know how the caretaker is treating your child.

The narrative highlights the distrust vis-à-vis the current childcare facilities that exist in India. One of the reasons for this could be the current practices in India where one relies only on family members for childcare and is suspicious of the outsiders. The presence of extended family support in India can be a one of the reasons of why perhaps childcare support mechanisms outside of the home has not fully developed. Also, women develop or adopt different forms of childcare support mechanisms so that they can continue with their careers. In the following section, the article will highlight the nature of the childcare support systems that were available to our participants.

Planning the Birth of the Child

The age of marriage in India coincides with the period of higher education, particularly for those who seek higher qualifications through doctoral studies. Hence, in several cases, women are already swamped with new roles and responsibilities. Against this background, pursuing higher education or a career that leaves restricted time for domestic responsibilties continues to be a challenge. The pressures of the traditional role of becoming a mother interfere with charting a career path, which is demanding during the initial years. Women scientists in India have, in different ways, straddled the multiple responsibilities that come with marriage and have

built careers. Increased levels of education and aspirations to carve a role beyond a traditional wife have been instrumental for women who build their careers while fulfilling their roles in their families. Data gathered through this research suggests that many women scientists started their PhDs only after their marriage. Since the pressure of childbirth starts building on women after their marriage, a lot of women scientists plan the birth of their child such that it will coincide with a suitable point in time of their research work. For example, many of the women scientists plan their childbirth in such a way that it overlaps with their thesis-writing period so that they will be able to keep pace with their work with other students and use this period of childbirth to write their thesis. For example, Alia who works as a professor at a state university narrates how she planned her children,

> My second child was born when I was about to complete my thesis. I had to do most of my writing work. So, I planned my child in such a way that I could have my next child once I finish my practical work …. So that I can focus on the writing.

Support from Extended Family

One of the major childcare support in India comes from the extended family. In Indian society, childcare was not the responsibility of the parents alone. The extended family has been a critical support to the children as they are growing. However, with the increased employment opportunities, which are not restricted to the proximity of the marital home, couples are compelled to move to locations where jobs are available. This has created nuclear family structures where the families of the young couple do not share the same home space with their parents. Due to inadequate in-house institutional childcare facilities, women professionals draw on their families for childcare. Even though the structure of families in India have changed a lot, the role of grandparents remains pivotal in child-rearing. After the birth of the child, parents mostly move in with their children to help them raise their kids (D'cruz & Bharat, 2001). This system helps women a lot as they prefer to leave their children with their parents or their spouses' parents and this, in turn, helps them have better work–life balance.

During the growing years of their children, the women professionals use multiple support systems involving their parents, extended family, childcare professionals as well as childcare facilities near their home or workplace. Riya, who is a retired scientist in one of the centres of the Council for Scientific and Industrial Research, remembers how she could not have had a career without the help of her mother-in-law who moved in with them and helped her raise her child. She narrates,

> I delivered in 1977 January. I knew a break had very serious consequences for a scientist, but I did not know how to manage. I could not imagine leaving such a

young baby and going to work …. I would go home at 5.30 PM sharp. My mother-in-law stayed with us; she was very old, then 77, but she was very good. She was very independent, very strong; we had a very good rapport. She trusted me.

Asma who works as a DST–INSPIRE Faculty at one of the research laboratories supported by the government talks about how her husband works in Chennai and how it is because of her mother, who stays with her, that she is being able to raise her son. In her words,

> My Husband is an aerospace engineer …. My child stays with me and my mother. I joined the research laboratory based on convenience. I did not get a place in the same institution where my husband was working. This was the closest and most convenient because my parents are also here now. My son is two-and-a-half years old. It's a very tough time; he stays with my mother.

However, not all women scientists get similar childcare support from their extended family members. In the next subsection, we will talk about the various kind of private support structures that women scientists access to have a better work–life balance.

Childcare Services: The Different Forms

Professional women including scientists who are successful have always had a support system at the home front. This could either be the family, an excellent domestic help, housing on campus or a husband for whom the career growth of his wife is important. In the absence of these support systems, it is extremely difficult for women to advance their career in academics, particularly in the STEM disciplines which is highly competitive.

Many of the women who are unable to get family support resort to other forms of childcare services during the years when children are young. Maya, an ex-Dean at one of the NITs, explains how she managed everything without any help from her family. She says,

> We have only one son; he was born in 1987. In fact, when I went to one of the premier institutes of science, he was only 2 years old. I took him with me, and I had a full-time servant. The institution did not have a crèche, but I put him in a playgroup in a close by locality, at the age of 3 …. No help from mother or mother-in-law, only this one full-time servant was there. I used to leave my home around 8 AM and come back for lunch, dinner and all, but again, I used to spend time either in the lab or in the library until 10 at night.

While talking about the various childcare support systems, the article argues that when it comes to childcare support system in India, the onus is on women to create their own support systems, which are a combination of various support structures such as supporting husband, extended family members and private helps.

Unlike in the West, women in India create multiple support systems around them and navigate through them in order to balance their work and life. What remains interesting though is that these support systems are very personalised and private in nature and necessitates having a privileged position. Unfortunately, not all women scientists enjoy the privilege to harness multiple support structures. Not having a good support structure becomes a reason for them to take a short career break. However, the study revealed that there are women scientists who chose to take small career breaks because they believe that as mothers they should not leave a small child at home to go back to work. There are also several women scientists who did not take a break in the absence of support structures for childcare. The reason cited by these women is that it is extremely difficult for a woman to get back into scientific career after a break.

We argue, in this section, that while some women accessed their multiple support systems including the family, there were several others who had to struggle in the absence of efficient childcare support systems. These women demonstrate the commitment and motivation to build careers in science despite the multiple challenges. The responsibility of the institution to provide childcare support was raised by all women scientists as they demonstrate the potential of this arrangement to enhance their own productivity. However, we need to highlight that not having an efficient institutional childcare support system makes childcare a very personal thing which women are supposed to deal with using their own methods. In the process, the scientific institutions not only fail to acknowledge the needs of women scientists, but also reinforce gender norms, which, as a result, make it hard for women to survive in the system that automatically favours men over women.

In the next section, we will see how women scientists negotiate with these prescribed gender norms and what their coping mechanisms are.

Negotiations and Coping Mechanisms Adopted by Women Scientists

In the previous section, we highlighted the creative ways in which the women scientists in India develop their own childcare support systems. We argued how these systems are quite personalised and reinforce prescribed gender norms both at a societal level and at an institutional level. In this section, we will highlight how these gender norms raise a gender-role conflict, that is, conflict between the role of an ideal wife and of an ideal employee among women scientists, and what are different types of negotiations and coping mechanisms that are available to these women scientists that allow them to deal with the gender-role conflict to ultimately have a work–life balance.

No Realisation of Gender Norms

Some women scientists do not challenge any prescribed gender norms. They prefer to play the role of 'superwoman', where they fulfil all the roles that are required of an ideal wife, an ideal mother and an ideal employee (Connell, 2005;

Gambles et al., 2006; Polkowska, 2014). It is interesting to understand the reasons behind this. Challenging gender roles is not easy. Sometimes it takes away a large amount of your energy, which otherwise, you could invest in your careers. For many women scientists, it became necessary to choose their battles. Gender battles are sometimes difficult. Sometimes the change you want is achieved, not necessarily by an active engagement with the change you want, but a tacit strategic intervention to create the necessary impact. The pace and time you choose to fight your battle is personal. Unpacking these personal choices with the life experiences of women can be a valuable resource.

Questioning Gender Norms/Challenging the System

There are women scientists who realise how gender operates within the institution of family and at the workplace. They not only challenge the expected gender roles but also realise early in their career that scientific institutes are patriarchal in nature. The system makes it hard for women scientists, especially the young women, to survive. Talking about the tenure process, Bhavya, who works as an associate professor at one of premier institutes for scientific research of the country, explains how gender works at the workspace and how it makes it difficult for women scientists to survive in the system. She narrates,

> The tenure process is very stressful … the tenure process never takes into account that you are a young mother, and biology works the way it does; so my male colleagues can get away just by sitting here and doing what they do, but as a mother, I have to remember that my kids will need me more. We are not asking for concessions; give us a break. You get stretched from everywhere, nobody gives you a little bit of laxity, nobody. I mean you are judged worse. My male colleagues can sit and ask me, if I eat breakfast in a canteen, 'Did you not cook for your husband today?' And I am like 'did you cook for your wife?' Why should I be both—all of what their wives can be, plus all of what they can be—it is just not fair. So, you are judged on every front—from being female and equating to their mother and wife and sister, plus you have to do your job.

Deriving Pleasure from Work

For some women scientists, their work is what gives meaning to their lives. It is through their professional work that they feel a sense of fulfilment. They sometimes have had to make compromises at personal levels in order to achieve a better professional stature, which they felt was required in order to have a successful career. For example, Nidhi, who works as an assistant professor at a University for Science and Technology, recounts how she talked to her husband before their marriage about what kind of support she expects because she was aware that she would need a great amount of support to succeed in her career. She narrates,

I have to thank my husband …. He always manages home when I am not there. Even now, we have a programme that just concluded. I could be here because he is there to take care of other things. I told him that I expect that kind of support. It is not because I asked him to change into a person who supports me, it is because he was a person who would support me, and he said that he can do so. Ours was an arranged marriage. At the beginning only I told him, and he agreed to support me …. Without his support, it would have been really difficult. I think that many working women have that problem, they always run back after 5 PM.

In this section, we highlighted different types of negotiations and coping mechanisms that women scientists adopt to avoid gender conflicts and have a stable work–life balance.

Discussion and Conclusion

The aim of the article was to examine how women scientists in India strike a work–life balance to have a more fulfilling career and an equally happy family life. The article highlighted the various enabling factors that make it possible for women to have a work–life balance. While institutional support was unevenly distributed, staggered and sometimes insufficient, these women have survived the system. However, we would like to emphasise that all the narratives that were used throughout the article were of married women scientists. The narratives discussed the challenges they faced while they straddled multiple responsibilities pointing to the nuanced nature of support/lack of support they derived from their home and their associated institutions. The analysis also pointed to the shifting nature of gender relations both at home and at institutional space that were instrumental to have successful careers and their families. What stood out in these narratives is the nature of prioritisation and negotiations and the possible explanations for the choices that women made to maintain work–life balance. The rising aspirations of younger women, unwilling to confine themselves to the families, seems to be an interesting trend as much as their ability to negotiate the changing gender roles within the family. The road has not been easy, but the quiet determination through which these negotiations happen have interesting insights for the younger women who do not want to make a choice between the family and career and will rather want both a career and family is an important observation. Although those arguments stand true, our aim was not to indicate that work–life balance is essential only for married working women.

Work–life balance as a concept was introduced by replacing work–family balance to make it more inclusive. When we see work–life balance only for working married women, we tend to equate life with domestic work/family/children (Wilkinson et al., 2007) and this reinforces the belief that women should take care of their family when they are not working. It also implies that single women or childless working women do not need a work–life balance as they do not have any

domestic responsibilities. However, it is time we open the narrow definition of life in work–life balance and recognise that unmarried women, and men too, need work–life balance (Hamilton et al., 2006). In fact, studies show that it is more difficult for them to have a work–life balance because they manage everything all alone (Karkoulian et al., 2016). At the same time, they do not have to deal with the dynamics of a marital family and the associated challenges. It is true that the number of unmarried women scientists is less when compared to married women scientists but that does not imply that work–life balance as a concept is limited only to married women scientists. Work–life balance as a concept should be more inclusive and we need to centre stage the debate in traditional scientific institutions to make them more employee friendly. In fact, it is our perspective that single women have a different set of challenges against their lived reality and is beyond the scope of this article.

To conclude, the article was an attempt to critically analyse how woman scientists strike a balance between their personal and professional lives. Based on these narratives, the article mapped the multiple methods that were adopted by women scientists to have a work–life balance. Focusing primarily on married women scientists, the article argued that to strike a work–life balance, women scientists develop and navigate through multiple support systems which are quite personal and specific to individual women scientists. As early as 2010, the IAS-NIAS report, 'Trained Scientific Women Power: How Much Are We Losing and Why?', made recommendations with specific reference to organisational and infrastructural provisions include housing on campus, transportation, flexibility in timings and state of art childcare and eldercare facilities for both men and women in science and technology organisations (Kurup et al., 2010). However, the ground realities echo the persistent challenge between policy recommendation and implementation across institutions that employ women scientists in the country. Hence, there is a need to reiterate the criticality of institutional support and equitable professional environment to attract and retain women scientists in India. Smaller institutions and universities in small towns bare the brunt of absence of these support structures that are critical for women scientists as they advance in their careers. Notwithstanding, women scientists with doctoral training who leave science due to lack of institutional support for child and elder care are a valuable resource the country is losing; and can be leveraged with a redefinition of work environment which acknowledge women as not an add-on but integral to scientific endeavours.

NOTES

1. In Table 1, STEM includes science, engineering & technology, IT & computer, medical science, marine science, fisheries science, forensic science, veterinary and animal science.
2. The article is based on the rich narratives of 130 women scientists from India, collected as part of a larger study undertaken by the National Institute of Advanced Studies (NIAS) over the period of two years from 2016–2018. Between 2016 and 2018, we conducted semi-structured, in-depth interviews of 130 women scientists that were duly recorded, transcribed and coded. The consent from the interviewees was obtained prior to the interview. Out of these 130 women scientists, approximately 20% did not consent to recording the interview. The study used different mediums depending on the logistical concerns to collect the data such as direct interviews, telephonic interviews and interviews through Skype. Out of 130, 69 participants worked in major research institutes of the country and 61 worked at the National Institutes of Technology (NITs) and public universities. Out of 130, 40 participants were working as professor and equivalent, 30 as associate-professor and equivalent, 41 as assistant professor and equivalent, and 19 as technical staff and equivalent. To maintain the anonymity and privacy, the names of the participants and their institutions have been changed in this article.
3. Retrieved from https://wcd.nic.in/sites/default/files/National%20Minimum%20Guidelines.pdf
4. Retrieved from http://wecarelearning.com/corporate.html
5. Retrieved from http://wecarelearning.com/announcement-tcs.html

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