The win-win potential for motherhood and science

Women wishing to combine children with a research career should not be seen as taking a backstep but as bolstering both activities, argues Marlene Belfort.

Much has been written of the lot of women in science, of gender bias and the extraordinary dropout rate. Although almost one-half of graduate students in the sciences are women, the number who are full professors, scientific leaders, or members in the National Academy of Sciences is in the 3% to 8% range. I call these successful women scientists ‘the 5%’.

As a mother and as a member of the 5%, I feel an obligation to send a message to my fledgling sister scientists who are intimidated by the odds and terrified by choices they feel they need to make between their apparently conflicting professional and parenting roles. My message is that not only can they do both, but that doing so could help rather than hurt their careers, while motivating them to become better parents.

The force of the mother-scientist balancing act is generated by several feedback loops. First, the ability to juggle, organize, nurture and lead, carries back and forth between parent and mentor roles. For example, creative cooking enables original experimentation, while regimentation in the laboratory translates into organization in the home. Appreciating the foibles of children allows one to understand the idiosyncrasies of graduate students, while adjusting to the departure of post-docs can protect one from a sense of devastation when the children leave home.

Second is the perspective gained from the parallels between scientific and domestic life. Problems in one domain can be absorbed and solved more readily in the other. The pain of childbirth is forgotten, much as the pain of grant-writing fades, as soon as the product is delivered. Developing a view of the cyclic nature of events provides a rudder as we ride the waves of pleasure and pain in science as in domestic life.

Third is the balance of ups and downs. What can be more empowering than guiding a child, as we stumble in the scientific unknown or recoil from having a paper or a grant trashed? On the other hand, what could be more refreshing than to plunge into scientific exploration after countless hours of driving carpools and helping with tedious homework assignments?

Fourth is the space and opportunity provided by the workplace to meet new people and to travel, fostering a worldliness as we retreat to our insular domestic lives. These professional opportunities also provide a healthy distraction that guards against parental obsession. And children in turn provide psychological space — respite from the pressures and complexities of scientific life. They give us the occasion to be satisfied with taking care of minor scrapes and small problems.

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Last is fulfillment. Our roles as mothers imparts the emotional stability that forms the bedrock on which to function well outside the home, providing a springboard for professional exploits.

However, dedication to multiple high-powered enterprises like family and science brings with it great demands and hardships. What held me together through graduate student and post-doc years spent pregnant and nursing, years of relentless work and tough finances, were the intertwined forces of science and love, and the support of my husband, a professor of chemical engineering, and the father of our three sons.

Then there are the sacrifices. Cultural lives are compromised and hobbies become extinct. Friendships can suffer from neglect and relationships can become strained under the stresses. But these can be balanced and often outweighed by the positive factors.

Nevertheless, it is still an uphill battle. Both society and the scientific establishment need to be encouraged to help keep women in science. Societal acceptance of women as mothers and professionals must be fostered to allow family and scientific lives to become more integrated.

Discrimination at any level cannot be tolerated. The tenure time-line needs to be adjusted for women with young children to relieve some of the pressures created by the ticking of the biological clock and the tenure clock in the same compressed time-frame. There must be more tolerance of unusual schedules, of non-traditional career paths, of exit and re-entry. Finally, concessions need to be made so that the fathers of our children can pitch in without sacrificing their careers.

Part of the onus is on us — the 5%. We need to band together to set the principles for change in our
society and to help our institutions
draft guidelines to promote female
scientists. Also, we must be more
active role models and mentors for
future mothers and scientists, and
reassure them. We must share with
them the fact that we too were
scared and insecure, that we too
stumbled and stalled at several
stages in our scientific careers. Above
all, we need to tell them that they
have our support and that they will
be better mothers when
professionally fulfilled and better
scientists when their maternal
instincts are satisfied.

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