Leaky Pipes, Faustian Dilemmas, and a Room of One’s Own: Can We Build a More Flexible Pipeline to Academic Success?

This past Friday, our sewer backed up and my spouse and I ended a hectic week by bailing black water and dousing our basement with Lysol. Leaky pipes and other small crises happen to us all. Our ability to handle these challenges depends on the personal and professional resources on which we can draw. In this issue, Jagsi and colleagues (1) report that, among investigators who received a National Institutes of Health career development award in clinical research, men receive R01 funding approximately 25% to 30% more often than women. After 5 years, only 19% of women and 25% of men had received R01 funding. Success rates decreased over time for both sexes.

Jagsi and colleagues’ study has limitations. It does not consider talented women who did not apply for, or win, a career development award or differentiate women who did not apply for R01 funding from those who applied unsuccessfully. But these limitations do not alter the implication, demonstrated in concert with past work (2–4): The pipeline between clinician training and tenure remains more porous for women than men.

Some consider the leaky pipeline to be evidence that women are ill suited to—or uninterested in—science (5, 6). This is unlikely. At its core, clinical research is a creative, collaborative problem-solving exercise that is both consuming and delightful. I am confident that the women in this study enjoyed research, or they would not have persevered long enough to win career development awards. Furthermore, as Jagsi and colleagues note, women who attain R01 funding receive larger awards than their male counterparts, which suggests strong aptitude. I have observed that many promising women feel overwhelmed by a Faustian dilemma between personal and professional responsibilities and the challenge of finding a room and a voice of one’s own.

A noted psychologist, Carol Gilligan, has observed (7) that men and women differ with respect to moral values:

The moral imperative that emerges... with women is an injunction to care, a responsibility to discern and alleviate the “real and recognizable trouble” of this world. For men, the moral imperative appears rather as an injunction to respect the rights of others.

Although this awareness enhances life’s meaning and is a major asset when building a research team, mentoring, or chairing a grant review, it also expands one’s sense of responsibility and guilt. For single women, this may translate into volunteering to cover an extra clinic. Married women often feel responsibilities around maintaining their home and spouse. For mothers, expectations include the myriad and immediate needs of children. Although this imperative falls differentially on women, many younger men are choosing to share these responsibilities. This shift may contribute to the decreasing success of men in obtaining R01 funding that Jagsi and colleagues observed. My observations and suggestions extend to this new generation of men.

For those with child care responsibilities, expectations at work can pose a differential challenge (8, 9). Evening, early morning, or Saturday meetings may be easy for administrators to schedule but difficult to accommodate at home. Inflexible work requirements add stress to pediatrician appointments and paternity leave (8). I have also observed that successful women are often asked to join committees or offered administrative advancement earlier than men. The intentions are good, but these also distract from research.

Although all disciplines create tensions between home and work, these tensions are pronounced in clinical science. Like great writing, great science is difficult to accomplish in 15-minute slots between patients, or while worrying about personal responsibilities. Virginia Woolf provides a classic description of this problem in A Room of One’s Own (10). Excellence in research requires extended, undisturbed time and space in which to develop, evaluate, and fully test an idea. It demands the freedom to fail and try again. Whereas some male colleagues make time by moving into the office for the weekend, women often feel guilty about taking additional time away from children. Yet, without this time and space, scientific insight may go unrealized. This may be particularly true for those trying to develop a new interpretation of clinical data and defend it to a scientific community more comfortable with male society and male interpretations.

I am no stranger to guilt or failure. I persevered because I had the personal and professional resources sufficient to allow me a room—and eventually, a voice—of my own. Personal resources cannot be legislated, but they are essential. Women need families who value their professional success and spouses who support it. By marrying a doctor, I gained a spouse who understands the pressures and rewards of academic medicine (11). More important, we have learned to ask each other for help and to share home responsibilities equally. As a result, I have the time to pursue my work and my spouse worries less about finances. Our children see less of me, but more of their father—and they witness their parents collaborating to balance home and work responsibilities.

I also had major professional resources: 2 years of 80% protected time for research, a private office, a start-up account, and some secretarial support. This allowed me to
publish work from graduate school and develop pilot data before I applied for career development awards in a totally new area of research—aging with HIV infection, an area not highly appreciated a decade ago. It also gave me time to revise and resubmit the application.

I also benefited from the fellowship of colleagues and mentors who helped me hone my interpretation of the scientific evidence. In most cases, these men and women were not assigned to me; I sought them out because I admired their work. Only a handful of these relationships fit the traditional dyad of a senior mentor paired with a junior mentee (12). Individuals and teams of men and women, both senior and junior to me, have helped me find my way while they were finding theirs.

These fine people paid more attention to product than to process. Rather than concerning themselves with my work hours or maternity leave, they focused on ideas and evidence. They were curious, respectful, and challenging. They made time and shared their lives. We made false starts, but they worked with me despite the fact that I did not fit their mold. Furthermore, they did not stop offering opportunities after I declined some. Now that I am a mentor, I try to practice these lessons.

The research pipeline may always be more porous for individuals with substantial personal commitments. It may take them longer to achieve academic success and their publication count may be more modest (13). But their experience and maturity may greatly enhance the quality of their science. They may be uniquely suited to leading large, multidisciplinary teams to discoveries at the intersection of traditional disciplines. These leaders will stay in research only if they can avoid a Faustian dilemma between scientific achievement and personal responsibility. They require the means of covering small crises at home and at work, flexible hours, protected time, a quiet office, freedom to fail, and open-minded mentors and collaborators. If we are to benefit from senior scientists who have invested in their personal lives, the research enterprise (funders, universities, mentors, and colleagues) must work with current junior clinical scientists to lay new, more flexible pipeline to scientific discovery and academic tenure.

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**References**