THE FEMININE FACE OF LEADERSHIP IN SCIENCE
QUALITATIVE STUDY FINDINGS

BY BEATA C. LEWIS, JD, MSC

Women are changing the face of leadership. Accomplished, ambitious, intrepid women continue entering the game and the numbers change. But this is not just a numbers game. While the very presence of women can indicate change, there's more. What becomes possible when more women lead in more domains and at higher levels? Women and men are experiencing a qualititative shift in leadership and what is required for sustainable, vibrant growth and collaborative effectiveness.

In the business of science, women leaders occasionally make headlines, but the long-standing norm of male dominance persists. Women represent a substantial and fast-growing pool of the creative talent in science and technology. This is a time for "all hands on deck." The role of scientific and technological innovation to our economic, social and political well-being cannot be overstated. Women leading in science have a *vital role* to play – in partnership with men – in shaping a *sustainable and life-enhancing future for all*.

What happens to women who strive to lead in the sciences? Do they make the impact that they intend to? Who do they become as they strive to make a difference there? What do they need to succeed and thrive as leaders in their chosen fields?

We know that exposure to informational and social diversity can positively change the way a person thinks. It encourages the search for new understanding, values and perspectives, leading to better decision making and problem solving. In professions, such as science, where top leaders tend to be male and leaders at all levels are shaped by a male-dominated paradigm, women have fought hard and adapted themselves in order to "muscle" their way into top-level "power" conversations or even to register on top-level male "power" radar screens. As they do, things change. How is the "feminine" finding its way in our understanding and practices of better leadership?

Advancement in science requires a special blend of individual competence, *plus* the capacity to lead and foster collaboration. Teams and organizations need creative, agile thinkers who innovate to provide adaptive solutions to complex problems. Sustainable business growth and success require skillful – if not masterful – leadership and collaboration with business partners across boundaries of all kinds, e.g. discipline, cultural and organizational identity.

Something new is emerging now. Leadership competencies that have long been considered "feminine" are increasingly deemed to be a competitive advantage for business success – for men and women. In the business of science, what would be qualitatively different if leadership – especially at higher levels – were more inclusive of women and of the "feminine?" These are questions with which I began my inquiry in 2003 and which continue to inform my professional work with leaders – women and men – today.

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COACHING FOR LEADERSHIP AND COLLABORATIVE EXCELLENCE

2003 Qualitative Study: The Feminine Face of Leadership in Science (FFLS)

In 2003, I conducted an informal, qualitative study with women scientists leading in business. I heard the stories of nineteen women who, in various capacities and disciplines, were then recognized as leaders in science. All had earned superior academic credentials in the natural sciences, many with a string of "firsts" in their fields of expertise. Participants included women who at the time were CEO/founders of their own companies or consulting firms, heads of divisions within multi-national corporations, pioneering scientists in start-up companies, and women who have traveled those paths and moved on to apply their expertise in law or venture funding. They ranged in age from mid-30's to mid-50's and represented a variety of ethnic and cultural backgrounds.

From the initial description of the *Feminine Face of Leadership in Science:*

> "Women leaders in science have a story to tell. Their stories may inspire courage and resilience in the women who follow them. Their stories may point to questions about how better to develop leadership presence in women who dedicate their talent to improving life by science.
>
> The *Feminine Face of Leadership in Science* is an inquiry to understand what women face and what they need to succeed as leaders in their chosen fields. From the perspective of encouraging whole-person leadership, it is also an inquiry about how women leaders in science want to shape the character and practices of leadership to meet current and future challenges in the business of science."

In all their diversity, FFLS participants had much in common. They all love science and have tremendous enthusiasm for learning. All of them strive to be the best at something and to make a meaningful contribution in their world—whether in science or otherwise. All acknowledge the capacity of both men and women to be superior leaders; they rejected the notion that leadership excellence is primarily a function of gender. They define their success in large measure by their ability to be creative. And they all revealed themselves as astoundingly resilient.

While highly accomplished and respected in their professional roles, all stressed the importance of work-life integration and balance. This was true, especially with respect to family: they are daughters, sisters, partners, wives, mothers, grandmothers. Many, at the time, were the sole or main bread-winner in their household.

They were looking for ways to stay connected to and express an authentic sense of self within whatever role they play. They wanted then—and many were actively dedicated to building—workplace cultures that support women and embrace diversity in tangibly evident and consistent ways. Paraphrasing a statement expressed by all: *You can tell a lot about a company by how they treat their women…and whether there are women at the top.*

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At the time I was astonished to learn that, before me, nobody had ever asked these women about their leadership journey. They, in turn, were reassured and dismayed to learn that they had similar experiences and observations about emerging as a leader in a business context that focuses more on scientific expertise than on leadership excellence. Engaging in a deeper, more personally meaningful conversation gave them new awareness, refueled their determination to make the difference they care about, and opened possibilities for mutual support and growth.

Themes we discussed in 2003 remain relevant today. While women scientists continue to advance as leaders in business, overall trends are less than heartening. Highly qualified and accomplished women abandon their scientific aspirations and careers in numbers too large to ignore. Support to advance as an expert is not the same as support to evolve and mature as a leader. In this regard, women scientists in business may be among the least supported demographics for advancing as *leaders* in business.

What forces are shaping current and future leaders—men and women—so they can meet the challenges before them? As women emerge as leaders in these male-dominated and strongly masculine professional disciplines, how do they cope with existing "molds" or expectations of participation, collaboration and leadership? Are they re-defining and re-shaping the practices of leadership consistent with their values, standards and perspectives? How can "male" and "female" as well as "masculine" and "feminine" interact in this domain for the sake of greater wholeness and health in leadership and science? And where do women find support and guidance so they can rise to the call and live to tell the tale—with humor, integrity, grace and dignity?

FFLS participants requested opportunities to connect, learn and support one another in ways they had not experienced to date – not in their organizations or in professional associations of which they were active members. Based on my professional expertise and interest expressed by the women leaders, I offered two types of professional engagement in follow-up to the study: individual coaching and small-group coaching.

What happened to the women I met with in April 2003? Several advanced to high-level organizational leadership roles in bio-tech and pharma. More left the organizational ranks and become business owners or consultants. A few opted out of the upward climb they were on when we met, some choosing motherhood with part-time employment in science or careers in domains unrelated to their area of scientific achievement.

Since 2003, I have shared these results in presentations to professional associations (e.g AWIS, HBA, etc.) and groups interested in gender equity and the advancement of women leaders (e.g. UCSF Center for Gender Equity, San Francisco Bay Area Women's Conference, etc.). In speaking about my study results, I integrate results from related studies as well as recommendations for areas of emphasis in developing personal mastery and leadership excellence. As I continue to work professionally with women and men leading in science, the inquiry continues.

FFLS PARTICIPATION & STUDY METHODOLOGY

The study had three parts:

1) Inviting Participation

2) Individual Participant Interviews and

3) a Group Meeting

The whole process took place from February to April 2003.

PART 1: INVITING PARTICIPATION

Participants responded to my FFLS invitation which was announced at AWIS and HBA meetings and through word of mouth networking. Of the 19, I knew only one participant prior to conducting this study.

Study participants fulfilled the following qualifications:
- Professional education and current professional activity are in the natural sciences, e.g. bio-science, chemistry, physics, etc.
- Currently works in industry (not academia), whether in research, development or management.
- Currently works in a position of leadership within her organization (e.g., decision-making authority over direction and funding of projects, business owner, recognized expert, etc.).
- Willing to share her concerns and recommendations in order to illuminate the path for others.
- Lives and works in the San Francisco Bay Area.

Participation in the study included:
- An in-person interview of approximately 1-1.5 hours (tape recorded).
- A half-day group meeting (April 2003) to which all interviewed women were invited to
  - Learn about the study results
  - Engage in dialogue about key issues
  - Share questions and insights for taking action.

The invitation included the following information about me:

The *Feminine Face of Leadership in Science* study is being conducted by Beata Lewis, J.D., founder of Bridging Lives (www.BridgingLives.com). Beata is a professional leadership coach and consultant. She emphasizes somatic coaching and core competencies for leading creative and profitable collaboration built on the essential power of trust. While not a scientist herself, she is familiar with aspects of scientific culture from growing up in a community made up almost entirely of scientist and dominated by scientific concerns (Los Alamos, NM). Clients range from high-tech and bio-tech companies, boards of directors, non-profit and arts organizations, federal and state agencies, and entrepreneurs.

My Promise to Participants:

In order to encourage candor, I promised all participants that

- Individual comments and quotes would be unattributed and
- I would not publish their identities when sharing the findings.

Those who chose to participate in the Group Meeting obviously learned the identity of the FFLS participants who were present but not of those who did not participate in the Group Meeting.

All participation was voluntary. No fee was charged.

PART 2: INDIVIDUAL PARTICIPANT INTERVIEWS

My conversations with each participant focused on the following questions.

Questions for self-assessment of themselves as leaders:
- What are 5 qualities or attributes about you that define you as a good, successful leader?
- What are 5 qualities or attributes about you that tend to undermine your success as a leader?

Questions about their leadership development and concerns, including:
- What do you believe is required for successful leadership in the business of science?
- What leadership awareness and practices do you find are essential for productive, creative and sustainable collaboration?
- What role have mentors had in your development as a leader?
- How and where have you found support in developing yourself as a powerful, trustworthy leader?
- In what ways do your organization's standards for success reflect, emphasize or reward leadership excellence? Are these consistent with your personal values and standards?
- What is your current "growth edge?" How do you become aware of your "blind spots" as a leader?

- How might any of the challenges you experience as a leader in science be related to your gender?
- In what ways are you seeking to develop your leadership capacity now? What support would you like to have—whether from individuals in your organization or otherwise?

PART 3: GROUP MEETING

The FFLS Group Meeting took place on April 23, 2003. 12 of the 19 FFLS participants took part in the half-day session. The purpose of this part of the study was to:

- Share aggregate FFLS Interview Findings
- Introduce participants to one another
- Catalyze a new dialog – sharing questions and insights
- Consider next steps for individual or collective action.

In preparation for this meeting, each participant submitted a written response in advance of the meeting to the following question:

> **What would be qualitatively different about the business of science if higher levels of leadership were more inclusive of the "feminine?"**

Participants were free to approach this question in any way that was meaningful for them.

Other questions considered during the Group Meeting included:

- What leadership practices have I experienced or do I want to experience which encourage and integrate the "feminine" in the business of science?"
- What about being "feminine" gives me power?
- How have I experienced right use of power? What is right use of power?
- How can I better succeed in my chosen field at less personal cost to myself?
- How do I encourage the "feminine" in myself and in others?

The individual interviews and group meeting provided a unique forum and focus for participants to share intimate, moving stories. For all, this was the first time they had shared these stories in a professional context and with clear linkage to their leadership development as scientists, business people, and women.

FFLS FINDINGS: In Their Voice

My conversations with 19 women – all of whom are PhD scientists who were then leading in business – revealed aspects of their perspectives and what has been true in their experience. My **FFLS Findings** are an aggregate of what they shared. I share the **FFLS Findings** in the **present tense** and, to the greatest extent possible, **in their words** without the overlay of my commentary or analysis. The **FFLS Findings** shared here reflect what was voiced by all or the majority of FFLS participants. I invite you to read this with attention to what resonates with your own story as well as larger trends for women scientists – or women in STEM professions – leading in business.

I present the findings in two parts:

- **FFLS Part 1: Individual Participant Interviews** – This includes

  1. A consolidation of approximately 28 hours of interviews, responding to questions about their leadership development and concerns.

  2. A table of their verbatim responses to questions for self-assessment of themselves as leaders.

- **FFLS Part 2: Group Meeting** – Here I include participants' their verbatim responses to the preparatory question.

As you reflect on how these findings resonate with your experience, consider what choices you want and have for creating what you need.

FFLS Part 1: Individual Participant Interviews

FFLS participants identified several key requirements for growing as a leader. Their focus on leadership growth is rooted in recognition that "the system evolves as we lead, so our voice, priorities, perceptions and presence matter." First is the importance of listening to one's own specialness and staying true to what you value and what keeps you whole. Second, know the difference you want to make and develop a toolkit that keeps you on track, strong, and resilient in the face of set-backs. Third, find a safe outlet to share about your experience and gain wise guidance to experiment beyond your current limits. Make choices that help you get out of your own way and work more effectively with a less than optimal system. Finally, become the kind of leader you wish you had along the way. This includes, of course, reaching "back" with guidance for the next waves of leaders. Significantly, it also includes reaching "sideways" as a peer, reflecting and revealing capabilities that empower you for what's next, together.

AN UNCOMMON JOURNEY: WHAT THEY SHARE IN COMMON

While each woman has a unique story, what they share in common distinguishes them, too. **They all love science**. They could not have come this far without that, together with an abiding commitment to challenge, be curious and learn. Fueled by perseverence and a good measure of resilience, each woman admits to having a strong perfectionist streak. To the extent they feel they gained a base of support, they see it being due to performance, follow-through and being liked. The recipe is competence together with courage to take risks. Their identity is in being someone who "does a good job" and is not a "schmoozer." They define their success in terms of creativity. Above all, they want to "do the right thing."

They are driven, learning by observation and being resourceful, on their own. Without the guidance of a great mentor and with limited opportunities to get support from peers, they tend to feel isolated in the field and at a professional level. "No one came to me and offered guidance or help." Notably, any mentors they had were men. Few have – or had – any women mentors; even fewer credited peer support by women as being instrumental to their success. In their experience, women might be consoling listeners, at most. In our conversations they asked: "What stops women from seeking one another out and being more supportive of one another?" Even so, their observation is that people enjoy and appreciate reporting to them in a business context.

They constantly anticipate being under fire. They learn to "expect nothing and appreciate everything." Their experience dictates "be modest or else get hammered." They tend to get things done "under the radar" and without expecting recognition for what they do. By staying under the radar, "I can be who I am." Rising above the radar, "I'm involved in huge fights with no back-up. I'm generally acknowledged as being right in the end but it's at huge cost." They all emphasize an aversion to (and overall exhaustion about) "politics," some going as far to say "I'm too old for the bullshit."

Their primary base of support is from their personal, not professional, relationships. With few exceptions, FFLS participants are either the primary bread winner for their family or the sole bread winner for themselves. They note: "Successful men have wives; successful women don't." Those with spouses or life partners make special note of needing – and in some cases, having – exceptional support for their demanding careers.

They expect to excel on the basis of merit. This is related to their scientific orientation of looking to be convinced of the "rightness" of something from wide and diverse perspectives. They see high-level leaders being more focused on "controlling spin" than on what's "real." They are outspoken and willing to fight for what they believe is right. For example, "Given the choice to tell the truth or make the CEO feel good, I choose the truth. It means I sacrifice some individual comfort for the future collective success. It also means the CEO knows he can rely on me for what I believe is the truth."

They seek environments where they can stand out and be recognized on the merits. They prefer environments where collaborative leadership – open, cooperative and friendly – is encouraged as the norm.

The are unanimous in this evaluation: "You can tell a lot about a company by how they treat their women. …If there are no women in leadership, then the company is not cutting edge, not creative, not a risk taker." They see that the "more diversity you have, the more open to input that is really cutting edge, covering all the options in the industry."

THE PAIN: WOMEN FIGHTING TO BELONG AND MAKE A DIFFERENCE

FFLS participants shared that open, cooperative and friendly environments are far from the norm they experinece. They offered painful descriptions of their work environments and paths for advancement. Despite being highly qualified and accomplished in their areas of expertise, FFLS participants spoke at length about feeling invisible and at a loss to make the connections necessary to advance more powerfully as leaders. They observed that fewer women are groomed for those essential and subtle opportunities to "show their stuff" and lead effectively. Similar to women in other professional fields, women scientists are faced with serious questions for how to continue in their career and fulfill other necessary expectations for a full life.

Qualified with doctoral degrees, these women have fought hard to achieve and be seen as leaders. In their determination, they have learned to be tough – often, by their admission, to their own detriment – and to rise in an antagonistic environment. Whether in academia or business, the power dynamics of being marginalized, having funding withheld or withdrawn, and of workplace harassment contribute to a "norm of exclusionary behavior." Women either learn to swim against a current of feeling disrespected and unwelcome or else bail. All this can take a terrible toll on well-being, confidence and self esteem. Many experience a crisis of "will I EVER fit in?" Even though an open, collaborative approach is essential for people to interface and come together to solve complex problems, this is too seldom the norm.

By their observation, women who rise tend to have a survivor mentality, focus, tough skin and apparent resilience. They learn to hold and shape a bigger picture. They get where they do the hard way and want something better as they lead into what's next.

- **Leadership excellence** happens more by accident than by design.

  They observe that in the business of science, leadership excellence is generally not supported organizationally as a primary criterion for advancement or success. Leadership – not simply managing a list of tasks – does not seem to be the point. There is a pervasive and "huge lack of leadership support for scientists" and "management and leadership are unappreciated skills in scientific companies, in general." Why? They asked: "Is it because it is perceived as irrelevant? Is it because the leader crowd tends to mirror the customer crowd? It may be related to a pervasive trend where scientists are increasingly pushed to sacrifice a broader skill set and become narrow-breadth experts." Rather than cultivate leaders by design, the tendency is to expect leadership competency to be a natural by-product or accident of expert status or organizational advancement.

Depending on the corporate culture, even the best scientists can have trouble climbing the corporate ladder. One explanation is that the business of science is discovery driven. It's expensive, long-term, and it's acceptable not to know the answer. The business of business is milestone driven. It is fraught with risk, fast-paced and people want answers. Lab scientists in industry tend to interact among themselves and are called upon by the "suits" only when "things go South." Office scientists, those who have migrated to the business side, tend to be the ones heard. They are the face of management and marketing; they have left the bench.

Every scientist who made it to the bench, got there through academia. Patterns of behavior and expectation are set there. The observation is that in academia, leadership is a function of publications and "horn tooting." Women have to break through a deeply entrenched and powerfully reinforced "boys' club." A challenging factor in industry, however, is that science is not necessarily what makes the difference. Different skill sets are required of leaders in academia versus industry. According to FFLS participants, performance accountability, product development, team development, long-range strategic planning, and finances are notably absent in the curricula for scientists seeking to lead in academia. They see that the business/industry environment is more conducive than that in academia to developing scientists as decent leaders.

Whatever the reasons for devaluing leadership competency, as a consequence "very good scientists are often very poor leaders, failing to bring enthusiasm to projects or to be proactive in direction." This can result in costly waste and difficulties, especially since the business of science is increasingly dependent on collaboration across functional and institutional boundaries. "We're in an age now where there is an absolute need for industry and academia to be interrelated." Where leadership is valued, it is rewarded in subtle, indirect ways, such as increasing responsibility, accountability and notoriety (face-time value).

- **The academic environment** cultivates experts and survivors, not necessarily leaders.

  Valuing subject-matter expertise over leadership competency is, in part, a legacy of an academic system that FFLS participants observe is culturally out of synch with industry. The academic environment in the sciences breeds poor leadership practices, inappropriate exercise of power and patterns of inequality.

  - Scientists overall are "increasingly pushed to become narrow-breadth 'experts,' sacrificing essential broader skill sets."
  - Women in the sciences experience "tremendous pain and stress in graduate school," an environment that continues to be antagonistic to women. Promising women leave because it's "too hard to stay in science" and because science "is not fulfilling enough as a human being."

- An inordinate effort is required of women to overcome overt or subtle discrimination and intimidation. For example, at the doctoral level, women tend to have male PI's who may explicitly or implicitly prevent women from continuing or advancing. Some of this is overt harassment: women deal with "lots of weird sexual activity in academia." In the power dynamics of a scientific career, "a lot depends on your relationship with your mentor."

- In academia, scientists are are not trained to lead in industry. They are instead trained to be a "copy of their advisor." The bias against business persists: "If you don't go on in academics you're not a real scientist."

- The "cowboy mentality" continues to reign in science, especially in the "hard" sciences where there is notably less representation by women. Women are hard pressed to set new leadership standards in this environment. "There tends to be much less room in academia to set your own standards for leading and to be who you are and want to be."

- *Women expect other women to hurt them*, rarely to help them.

  Women tend to isolate and "become one of the guys" as they rise. An aspect of this is that affiliating with other women has tended to be perceived as a move of the "powerless." Instead, they learn not to expect support or collegiality from women peers and experience women colleagues "dragging each other down." A scarcity thinking persists such that women live in the "mindset that they're competing with one another for scarce openings." Women see they have to choose sides to rise up. So, when "push comes to shove, the guys band together but the women don't." FFLS participants asked: "What has to happen so that this phenomenon dies and is replaced by a default of mutual appreciation and support?"

- *Men continue to define the norm*, so women adapt.

  In science, men's approach to problems and leadership are perceived as the "norm." At every level of the game, men tend to find out earlier and better what approach and skills they need for higher leadership. This includes business skills, how to network and promote oneself within an organization and play power politics to an advantage. Men don't have to explain or justify themselves nearly as much as women do, especially their qualifications to do the job. It is common – even acceptable – for men to close ranks among themselves and give women an especially hard time. Where this is changing, women see it most among men seeking to support their daughters – or women like their daughters – who crash into visible and invisible barriers.

  Leadership, collaboration and advancement become very difficult where people don't communicate well or willingly interact. Women experience career-limiting consequences from having a boss or superior who has difficulty with women. They report not having frank conversations, not communicating frequently enough, and not being included in informal conversations or interactions.

Women scientists tone down their feminine qualities to fit in. "My peers and support structure are mostly men, so I have become more like them rather than risk being seen as a woman, someone who doesn't belong." This adaptive capacity is certainly not unique to women in science, but it may be more pronounced due to how male and masculine their work environments still are. "I become what I think is necessary to be effective."

- *An external Glass Ceiling persists* as the norm, not the exception.

Few women scientists rise to high-level leadership positions in business. Even though women scientists increasingly join the workforce and begin to advance, there are predictable places of high attrition. The external glass ceiling persists, and women are not working as a group to remove it.

  o People continue to make distinctions by virtue of gender. For one, women scientists have precious little mentoring at senior levels, neither from men nor women colleagues. Perceptions of "appropriate" behavior are colored by gender expectations. "The same thing done by either a man or a woman is perceived and rewarded differently." A primary challenge for women leading at any level is to be heard and considered. "People – men and women – don't listen to what I say; if ten minutes later a man says what I just said, everyone's excited about his briliance."

  o Women tend to be excluded from crucial "outside" interaction, especially when they do not do the "golf thing" or the "drinking thing." The "baby thing" sets them apart, too, and can be particularly tricky, given standard demands in scientific disciplines. Women bear disproportionate impact and lack of support for choosing to integrate family with career.

  o It can be overwhelmingly difficult to get organizational support to overcome pervasive patterns of exclusion, whether egregouis or subtle, overt or covert. Women learn to pick their battles, knowing they will likely be isolated and take the heat alone. "Even where I could take it to HR, the situation blows up and makes everyone's life miserable; nothing changes." Women continue to be passed over for promotions or raises despite their actual merit. An explanation they hear: "You have a husband who works; other guys need the money more than you do."

  o Career advancement opportunities are "extremely limited in the sciences." The result is outward migration of talented women. One migration is from the science side to the business side: "It's endemic here: anyone not on the business side has no control over their destiny." Another migration is out of the organizational structure altogether: some "feel they can do more on their own."

  o What's next when a woman reaches the apex in her field of science? Even though business would benefit from more women in strategic, creative positions, that doesn't tend to be "next."

o   Systemic structural biases limit options for women. For example, …

- A "major glass ceiling persists in R&D" where women are not chosen to run research. Women scientists are generally more successful and have more leadership input in what are considered "soft" areas – those with more business and "off-bench" focus, such as regulatory, human resources, statistics, and marketing.
- Leadership role expectations – rules of the game – were created by men with an extended support system, e.g. stay-home wives. No comparable support system exists for women – neither those with partners and/or children nor those without. This produces dead-end choices for a lot of women that are complex to resolve. One choice being the difficulty of global moves, especially in companies where top leadership must have global competency and flexibility to be more away than at home.

- **An *internal* Glass Ceiling persists** as the norm, not the exception.

As tough as external factors can be, some potent and pernitious limiters are the internalized glass ceiling. This includes factors by which women hold themselves back or get in their own way. These factors can, in fact, override positive external influences. For example, "In some cultural contexts – but still in scientific fields – the fact of being a woman does not have to be negative: It can be irrelevant or more of a curiosity." The internal limiters are powerfully shaped and reinforced by external ones. The internal limiters are understandable yet complex and not subject to facile or superficial solutions.

o   Women disidentify themselves as leaders or at least as the kind of leader they've experienced or tends to prevail in the business of science. "Looking at who populates the space above the glass ceiling, I couldn't imagine ever being there; no one there looked even remotely like me." One contributing factor is the perception that "working with people of high integrity gets tougher and less likely the higher up you go."

o   In an effort to be seen, heard and belong, women can lose a sense of their authentic voice and authentic self. The fact that I "have to work myself up so much to be heard feeds a sense of self doubt and undermines my self esteem. I overcompensate to stay in the game." "I always feel like I need to be a cheerleader; it's not in my nature to be that way so I go home feeling exhausted."

o   Women are often not aware of different or better options. This is, in part, because people do not explore options with them. "No one helped me look beyond to see other options I might have." It is also because the other options remain invisible to the one looking.

o   Exhausted, frustrated, deflated, depressed or overwhelmed…the stress of fighting every step of the way adds up. Women assess what life is likely to be like for them as they continue the

fight or the upward climb. Too often, a mood of resignation takes over. The possible gains are not worth the fight and what gets lost along the way.

AMBIVILENCE ABOUT BEING A LEADER: HOW TO SUCCEED AND BE WHOLE

For the most part, the leaders women experience in science – whether in academia or industry – do not inspire women to lead like them. The challenge is to find a way to lead that creates business success and also feels like success and greater well-being for the leader and those she leads. Conditioned by a fundamentally antagonistic environment, women leaders seek to provide something better, an environment that has people perform at their best while fostering healthier growth and feeling good about themselves along the way. They are not trained to engage the hearts of others, but they appreciate its importance. "Doing the right thing" becomes a bigger inquiry about leading congruent with one's own values, ethic, and standards for excellence. They want to feel, value and contribute their own wholeness as leaders.

The ambivalence about leading has roots in how women perceive themselves and each other. Perhaps arising from their experience of always having to fight to be seen, valued and belong, they observe that women leaders mostly adapt to the environment to which they rise. "Women tend to try to mold into the existing culture more than they try to change it; they don't insist on their own standards and ethic."

There is an unfavorable overall perception about other women scientists leading in higher business positions. While they see it is important to develop a presence that makes it clear you're not a push-over, "women who advance often are not very nice people, especially not to other women." As they "hold their own with the guys," to their credit, those women are no longer overlooked or ignored; they are self-possessed and perceived to be technically good. Even so, they are also perceived as being more harsh, less compassionate, more like their male peers. "Women leaders are often abrasive, back-stabbing and not good leaders; you can't trust their motives." Explanations they offer include that it is more characteristic of women to seek to accommodate others than demand that others accommodate them. Also, that "to get to the top you've got to play by 'their' rules; there's a different set of issues and concerns for survival." As role models, women in higher levels of leadership have a profound impact on what other women see is possible and likely as they rise.

Their experience of the working environment and trends for positive change also gives women pause. "I'm not sure I want to go to the next level because of what's expected there." Women have to develop an acute power of discernment in identifying good situations and avoiding bad ones. "You can end up being beaten up constantly and then wondering at the bruises. You can go into a situation insisting that people are good and then end up bending over backwards." There are few women-run labs, whether because opportunities don't come to them or because women choose to broaden their lives. The ever-elusive work/life "balance" is a serious consideration. Women are seen to "limit themselves," having more difficulty putting in long hours, participation in conferences, etc.

Perceptions about women as team players are inconsistent and paradoxical. Sometimes they are perceived as better team builders, with a greater priority and abiity to "get people to work together." Sometimes they are perceived as better solo players, not having learned as girls to do the "primal sports thing." They are not caught up in chest-beating contests for "top dog" or jockeying for "who's the bigger guy." But they learn to get ahead by being "smarter" rather than by being part of a team. They also learn to get ahead by pushing the collective good rather than an individual agenda. Among women there can be a different spirit about "giving back."

On the positive side, women are seen to contribute necessary leadership qualities. They "keep the 'human' in enterprise." Some see that "part of my success is because I'm female; we shoot for friendships and an approach where we all win!" Women tend to approach problems differently and tend to personalize things more. They screen for different things and observe things differently. They look for "diamonds in the rough" and cultivate loyalty. They value diversity and "diverse ways of getting there." They tend to be "more flexible in shifting plan or strategy when it's not working." They tend to get more – and more diverse – information out of people. They make non-linear mental connections more readily and more easily.

Women are seen to have innate organizational skills and be better at multi-tasking. They tend to listen better, not having the need "to talk all the time and be the center of attention." They may share more. They tend to deal better with emotions. They process and present using both analytical and intuitive data. They motivate people in different ways, more by influence and connection; they tend to be present with them in the trenches and leverage a nurturing instinct. They are interested in team members as whole people with whole lives, for example getting to know their spouses or children. Women have an advantage in the current business environment where men are less threatened by women seeking to collaborate with them. Their priority is more for the team to "get there together" (themselves included) than to claim individual recognition.

CORE TO SUCCESS: CHALLENGES OF BEING SEEN

FFLS participants mostly advanced without the help of mentors. They observe that people (mostly men) who might have been mentors did not choose to mentor a woman. Mentorship is crucially important in terms of who hears and sees you. It also makes a different in terms of self confidence and stamina. "I am here because someone has faith in me." Where mentors were lacking, women have had to find and make opportunities for themselves. "Learn how to notice where no one's making a difference and go make one!"

Those who had a mentor along the way, emphasize the significance. "The best boss in my life was a man; he made sure I was seen." "At each stage in my life I had at least one person who saw potential in me…" "In my mid-career I had a boss (male) who made decisions based on what was right rather than by who had political power; this same person had faith in me and was instrumental in getting me to be a project team leader."

Women need to be accepted and promoted within a team. The challenge is to get on the team, survive on the team and be validated on the team. "Any way you look at it, it's a team." Many experience persistent challenges of being the "outsider" by virtue of gender, at a minimum. "It would sure help not being the only woman on work teams; it's hard because we're perceived as different and put to a different level of scrutiny." They note, for example, that women who don't multi-task or interact well with people pay a higher price than their male counterparts: neither women nor men like them. As outsiders, they experience that others "won't ask you; you have to look for ways to participate and contribute."

Insights Looking Back: "How I Made It This Far"

Each FFLS participant is a success story. Even so, many find it challenging to frame their experience as "successful" or as an example of leadership. Reframing it in the reflection and telling was, for most, a new experience. It was an opportunity to claim a more powerful identity and story that supports their journey forward.

Their short list for success includes:

- *Be the best at something and stay curious*.
  Ask: "What difference do I want to make? What do I do well? Where can I find an outlet for that in the world?" Discover something new! "That's why I'm a scientist!"

- *Develop a toolkit for my own success*.
  Key items that can easily be overlooked are:
    - Protect time to contemplate and reflect
    - The importance of forgiveness, especially of myself
    - Be willing to do things in my own way and use other cognitive models
    - Develop a strong internal message of my own worth

- *Choose well*.
  Find a function that is a fit for me. Somehow get support from the top. Have fun; be truly excited by what I do. Makes choices based on what's important to me, aligned with my values.

- *Seek out a culture that supports women.*
  Such a culture will:
    - Be competence driven, in actual fact
    - Share rewards
    - Prioritize work/life balance
    - Support real mentoring
    - Be a learning environment characterized by integrity and honesty
    - Spend real money on career development
    - Feature people happy to work there

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o   Promote open, inclusive, positive discourse
o   Have and promote women in top positions

FFLS SELF-ASSESSMENT: "WHO I AM AS A LEADER"

See Appendix 1 for FFLS participants' responses to two questions at the beginning of our interview:
▪   What are 5 qualities or attributes about you that define you as a good, successful leader?
▪   What are 5 qualities or attributes about that you tend to undermine your success as a leader?

QUALITIES OF A SUPERIOR LEADER: "CAN THIS BE ME?"

FFLS participants know what kind of leaders they would like to have and also be, themselves. They see that both men and women have the capacity to be good, valued leaders in both technical and non-technical aspects of the business. They see that leadership is about sustaining and enhancing value. They value thoughtful leaders who consider the human impacts of decisions, not just shoot from the hip. The key is being open, present and connected to opportunities that excite them personally. In their experience, people "rise to the call, to the challenge." It is essential to demonstrate your own desire and value.

Their short list for leadership excellence includes:

- *Leadership presence*
  Be calm, especially under stress. Be adaptive and flexible. Have a demeanor that communicates you know what you're doing, a status of knowledge and authority. At the same time, be open to and interested in others in ways that they can tell that you're interested. Be authentic, not just fitting someone else's mold.

- *Vision*
  Focus on the bigger picture in the longer term with the bigger team. Make it pertinent to "today's science;" show you're moving the cutting edge, not just following along. Enroll others in clarifying, iterating and communicating the vision so you mobilize enthusiasm to achieve common goals.

- *Cultivate right use and acquisition of power*
  Be constructive when building alliances. Be strategic and attentive to leveraging power by association. Prevent or quash self-interested behavior. Cultivate trust and loyalty. Motivate, influence and inspire. Do not lead by intimidation and fear.

- *Know your team*

Know each person on your team so you can assign tasks thoughtfully, developing and leveraging their expertise. Understand and be interested in the broader context of their lives, not just how they contribute technically to a project.

- **Share rewards**
  Specifically reward process, talents, ideas, and accomplishments. "When I do a good job it will be rewarded."

- **Focus on professional development of those you lead**
  Guide them to develop skills and opportunities. Provide training and support for new tasks and areas of responsibility. Support emerging "stars." Be curious about and encourage the dreams of others; do not suppress them, especially for selfish motives.

- **Manage and develop your team with care**
  Understand that work is a joint venture. Find ways to agree to work together for mutual benefit. Engage their participation; do not just dictate or dominate ("pound others into the ground, micro-manage"). Create opportunities for people, including how things are presented or framed. Show genuine interest in how people feel about things, understanding the relevance of emotional buy-in. Seek out ways to support a sense of enjoyment, satisfaction and well-being in the team context.

- **Be in touch with and on top of the science**
  This is your specific area of expertise and the larger context. Communicate your expertise in ways that gains buy-in from non-scientists, without intimidating them, making them feel stupid or inferior.

- **Be emotionally grounded and strong**
  It will show by how open and trustworthy you are. That you are not threatened by others' opinions, competence or diversity. That you are flexible, not rigid, and you learn from experience. Surround yourself with excellence – not mediocrity – and seek out and use the input of others. Do not have the attitude of "there's one right answer and that answer is mine." Be willing and capable to address interpersonal issues. Show courage and strength through self-disclosure; "that's the key to building trust and understanding."

- **Be fair and respectful**
  Base decisions on the merits and be prepared to communicate the criteria for your decisions. Seek diverse input in decision-making. Do not allow favoritism. Remove any need for colleagues to fear being stabbed in the back or having things snowball. Be straightforward and timely in your communication. Cultivate solid, collegial relationships. No sexual innuendo or harassment, period. No "queen bee" syndrome. No assignment of roles by gender.

- **Encourage creativity and growth**

Cultivate your own strong capacity to trust others and encourage them to contribute to their full potential. Provide timely, constructive feedback and be open to feedback from others. Develop employees who are "take-charge" people and reward them for it. Apply consistent, transparent, high standards.

- *Delegate well*
  Cultivate new levels of trust in yourself and others so you can have a hand in guiding what happens but not have to do it all. Give people accountability for a result without telling them how to get there; allow for learning—with its risk of success and mistakes. Provide opportunities for others to learn and shine. Frame things in such a way to build and empower, rather than leaving people feeling cheated, defeated, or dis-empowered.

- *Be inclusive*
  Encourage participation. Include people in formal and informal interactions. Keep people informed, as needed, in a timely manner. By your actions, let people know you value their input.

- *Be insightful and decisive*
  Be willing to make sound decisions on 40% of the data, not needing 99%. Communicate your "gut knowing" to people appropriately and clearly. Be proactive and fluid with information; don't obtain information and then sit on it. Reflect before speaking or acting; the story may evolve but make sure it doesn't change with wild swings because someone spoke off the cuff without reflecting first. Create opportunities and prevent disasters.

- *Be collaborative*
  Set projects up with attention to relationships. "Sell" collaboration that is sustainable, not hierarchical. Communicate in all directions, not just up. Deal with conflict within the group and on behalf of the group. Try to diffuse conflict and understand actual causes. Be aware where issues exist, rather than avoiding or ignoring them. Seek to prevent "issues" from becoming conflicts. Do not be a wolf in sheep's clothing, i.e. self-serving and willing to destroy other projects, seeking to meet you own goals more than growing the people you manage or lead. Value, prioritize and reward the team effort.

- *Harmonize*
  Deliberately manage the dualism between the creative part and the business part. Translate across boundaries.

- *Keep perspective and balance*
  Stay focused on what is important. Remember that family is not expendable. Be able to walk away with dignity.

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THE LEADING EDGE: "WHERE I NEED TO GROW"

Reflecting on who they want to be and who they are today, FFLS participants face into the need to grow again. They have proven their merit as scientists. They reached a level of success that affords them a new perspective. They are reassessing what results they want to create and who they want to be as leaders.

This is their short list:

- **Shape the rules of the game**
  Move from being a "player" to being one who shapes the "rules of the game." Decide I belong, enough to invest myself again with a new internal sense of acceptance. Be willing to step up and care enough to put in the time and energy. Contribute what I value and what others value in me. "I feel blocked when I'm trying too hard to belong rather then contributing what I value." Cultivate independence and interdependence.

- **Find safe haven for "YES"**
  The real support that helps is "that little voice that says 'you CAN.'" Find it first in myself. Listen for my own specialness, my inner voice. Reflect and discover meaning. Find freedom to express my creativity. "In fast-paced environments, I never have enough time to think things through; I need to reflect, especially as an introvert in an extroverted world." Appreciate the role of personality and emotional strength. I need "space and permission to pay attention to my feelings." I need "to validate myself more consistently; for example, no longer look to men in senior positions to validate me." I need "a safe outlet to share and express my experience."

- **Survive or succeed on my own terms**
  Integrate my various "selves" into one harmonious entity: e.g. leader self, feminine self, professional self, private self. No longer sacrifice myself on the altar of achievement or success. No longer sacrifice family, my own peace of mind and equilibrium, or relationships with others by putting my career first.

- **Lead my way**
  Find the courage to "lead by my own style (not command-and-control, despite command-and-control culture)." Be known and well regarded for my leadership ethics and healthy practices. "I want to be more myself as a leader." Become more consciously competent about what I do well as a leader, so I can repeat it and teach it to others so they appreciate what is involved. Redefine my own identity as a leader, not merely defined by position or role.

- **Trust myself**
  Find a sense of authentic self within the role I need to play. Trust my instincts more; "they're really good and I back off too readily." Become more comfortable with risk management decisions. Have a more reliable sense of when to stand my ground or when to give ground.

- ***Become more strategic***
Establish more strategic-level expertise. Identify and take appropriate paths. Learn the system and be more effective in the politics: what routes to take to be the most effective, when to call in favors, when to let things go. Understand business and financial impact of decisions. Get better implementing a vision.

- ***Learn more quickly from mistakes and successes***
Find the good in "80/20" over perfectionism. Get over being critical and get on with praise and accepting differences, especially where I think I know how something needs to be run.

- ***Negotiate better deals***
Ask for something in exchange rather than "give it away." Get better at balancing between "giving too much leeway and tolerating too much crap." Learn to negotiate more consistently, easily and with more satisfying outcomes.

- ***Communicate for better results***
Learn "corporate" communication techniques, namely acceptable ways of saying things but still getting the point across. Learn to advocate in ways to enroll and not alienate others. "Communicate effectively without first having to work myself into a fit."

- ***Be less confrontational under pressure***
Develop my ability to challenge people and ideas in a context of mutual respect and acknowledgement. Pick my battles.

- ***Stop hiding***
Be more at ease and effective when I need to be more outspoken (or even aggressive) than I prefer, especially in gaining visibility and acknowledgement. Stop selling myself short.

- ***Manage conflict***
Attend to subtle clues about tensions building within a team. More effectively recognize and handle conflicts as they arise. Learn how to work more constructively with my emotions and the emotions of others, especially sadness (expressed by women) and anger (expressed by men). Take better advantage of chaos, allowing new patterns to emerge and take hold rather than shutting down that creative process for fear of uncertainty or conflict.

- ***Attract money***
Since funding drives longevity, figure out how to generate money or ally myself with someone who does.

- ***Stay ahead of the curve***

Improve how I pace the life-cycle of any technology or project. Become more proactive at getting what I want: outer constraints control my situation vs. I impact my constraints.

- **Develop others**
  Get better at delegating down. Learn to accomplish things by building teams of people at a lower personal cost to myself. Get my teams to take more responsibility for decisions and actions.

- **Be more alive**
  Be energized by seeing "how my work contributes to moving something." Appreciate my relevance and value, knowing "who I am and how what I do makes a difference." Find ways I can engage and be effective without exhausting myself all the time or interrupting the rest of my life.

- **Clarify what's next for me**
  I do not want this to be my "last job." I have a creative nature and must have a larger realm of expression. Position myself to have more control over my destiny.

FFLS Part 3: Group Meeting for Participants

The FFLS Group Meeting took place on April 23, 2003. 12 of the 19 FFLS participants took part in the half-day session. The purpose of this part of the study was to:

- Share FFLS Interview Findings
- Introduce participants to one another
- Catalyze a new dialog – sharing questions and insights
- Consider next steps for individual or collective action.

In preparation for this meeting, each participant submitted a written response to the following question in advance of the meeting:

> **What would be qualitatively different about the business of science if higher levels of leadership were more inclusive of the "feminine?"**

Participants were free to approach this question in any way that was meaningful for them. They might respond from a gender perspective, psychological/archetypal perspective, energy perspective, or any other.

Their responses, reflected here in their own words, emphasized these topics:

- **Ambiguity** about what **"feminine"** really includes and how women embody that as leaders, as affected by

- o What you actually experience
  - o Opinions or bias about "better or worse"
- **Collaboration** dynamics, as affected by
  - o Qualitative emphasis on interpersonal issues and communication
  - o Decision-making processes / Inclusion of diverse voices and influences
  - o Authorship / credit for work done
  - o Receptivity to new ideas and approaches; diversity
  - o Motivating individuals and teams
- **Change** dynamics
  - o Receptivity to change as an organic process
  - o Greater flexibility in the workplace

Other questions considered during the Group Meeting included:

- What leadership practices have I experienced or do I want to experience which encourage and integrate the "feminine" in the business of science?"
- What about being "feminine" gives me power?
- What is right use of power? How have I experienced right use of power?
- How can I better succeed in my chosen field at less personal cost to myself?
- How do I encourage the "feminine" in myself and in others?

The following quotes are individual statements submitted by FFLS participants.
Group Meeting participants received this compilation to inform our dialog during the Group Meeting.

AMBIGUITY ABOUT WHAT "FEMININE" REALLY INCLUDES AND HOW WOMEN EMBODY THAT AS LEADERS, as affected by…

- o *What you actually experience (rather then what you think should be happening or what some say is happening)*

  - ▪ "In today's climate, I find this difficult to respond to, as it seems the pendulum has swung back and many women in leadership roles (or on the cusp of leadership roles) are less free to include their femininity. … How do I measure when generally the feminine side cleans up the mess or brings order / efficiency and the masculine side is using a very quantitative measure to the business of science, money. … Perhaps what we are seeing is parallel to what we see in everyday male/female relationships of driving from the backseat. The male is always in the driver's seat but most often being directed by a female. Perhaps as women we conclude it's not worth the hassle of wrestling them for the driver's seat when we can find many more interesting things to do with our energy, especially when the driver's seat seems to require a one-track 100% commitment. This collapses when the backseat job isn't

intellectually exciting which often happens when one stops being able to make an impact and the rewards / credit go to the driver."

- "One first needs to define what one means by a business model for the scientific community (or any performance-based work, for that matter), which is inclusive of the 'feminine' in its higher levels of leadership. The feminine qualities are the intuitive, the feeling, the qualitative and the empathetic. … [M]asculine qualities saliently represent the rational, the quantitative. … Including the feminine in leadership is allowing for the intuitive to work with the analytical for profit to balance alongside compensation and for the imagination to soar with that which is possible."

o *Opinions or bias about "better or worse"*

- "I find this is a very 'hot button' topic for many people, male and female alike. I think this stems from the fact that people erroneously interpret the differences as negative for one group versus the other, when the reality is that these differences are simply two sides of the same coin—neither is necessarily more or less valuable than the other, but they certainly are different."

COLLABORATION DYNAMICS, AS AFFECTED BY

o *Qualitative emphasis on interpersonal issues and communication*

- "I think the major difference lies in communication, both who is included in the communication as well as what topics are communicated on."

- "I think that utilizing a more feminine perspective in the business of science would probably improve things in the management (people skills) arena and the communications arena. Some women (not all) are often more aware of the power of 'intra-personal' interactions in business than their male counterparts. This awareness in management can lead to higher productivity. On another note, men are 'educated' in our society to play by certain rules in business, and life in general, that women are often not aware of; for women to contribute more, they need to be better informed about these rules in order to make an impact with a more 'feminine' view."

o *Decision-making processes / Inclusion of diverse voices and influences*

- "All scientists have an inner circle composed of colleagues they trust and build relationships with. In leadership settings, the so-called inner circle often becomes the decision making body thus shaping the company. Science is a male-dominated field, therefore men have the occasion to choose their inner circle to be very exclusive and be made up of only like-minded males. I don't think this necessarily speaks to prejudices against women but rather to a comfort zone that only extends to the borders of the chosen group of like-minded male

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scientists. Women, on the other hand, have learned to feel comfortable with diversity. If a female scientist attempted to compose an inner circle of only like-minded female scientists, it would be a very small circle indeed. Therefore, women (perhaps out of necessity) have learned to accept and work with diversity, learning to accept those different from them and to value that diversity. This translates into women having a comfort zone and inner circle that extends beyond sameness and includes lots of diversity (both gender and otherwise). Whereas men can hide in their like-minded circles and are allowed to maintain a very finite comfort zone. When men possessing small comfort zones are in charge this leads to a lot of exclusion and a perpetuation of the very narrow inner circle and leadership base. Diversity is not just more inclusive; inclusiveness leads to a broader knowledge base and a greater variety in viewpoints. Thus diversity translates into strength and increased capabilities that cannot be realized by the "like-minded" inner circle approach. … Women, through their increased appreciation for diversity and broader communication skills, achieve leadership by being more inclusive in their inner circles and more effectively utilizing their employees."

- o *Authorship / credit for work done*

  - "A constraint in collaborative research is that credit (first authorship, principal investigator status) can go to only one person. Increasingly it is being recognized that collaborative projects need new models of awarding credit and status so that participation on a team as a key individual would confer higher status."

- o *Receptivity to new ideas and approaches; diversity*

  - "In my experience, what would be qualitatively different would be more 'unfettered' brainstorming and exchange of ideas around the issue at hand (whether that be a business or scientific topic). I think there would be more desire to find the best solution or strategy rather than the best 'personal positioning.'"

  - "…[M]y experience has taught me—in the lab and in the board room—that women are typically more collaborative in their approach to science. For example, women often seem less threatened by the prospect that the goals of the team surpass the needs of the individual contributor. In my opinion, the processes by which science advances today increasingly require such collaborative energy in order to be a) noteworthy, and b) readily applicable to societal problems. The reason why? The great, scientific 'unknowns' have themselves become almost exclusively multidisciplinary, requiring many different skill-sets, backgrounds, and types of expertise to be tackled. If it is true that women are naturally better able to adapt to highly collaborative work situations, then one could argue that society would be best served if the scientific community—academic and commercial alike—attracted higher proportions of women than currently exist there today."

- "While a few science-focused companies in the U.S. have become more appreciative of the 'feminine' during the last 10 years, the majority of top executives in technical organizations—either men or women—are still recognized much more for their risk-taking behavior and toughness ("the masculine") than for showing empathy and building/supporting relationships ("the feminine"). Interestingly, science-oriented companies that serve the consumer masses directly seem to have leadership groups that mirror the diversity of their customer bases as well as cultures that appreciate the 'feminine' more than companies that provide products to specialized customers upstream from the general population. I believe that companies that reward the varied management styles that can yield great results will in the long term outperform those that value only the 'masculine' style of management because it's the norm."

o *Motivating individuals and teams*

- "If higher levels of leadership were more inclusive of the 'feminine,' one would expect the business of science to be more team-oriented and much less command-and control focused. Sharing of power and nurturing would be the norm rather than the exception, and sharing of information would yield more productivity. With more 'feminine' leadership in science companies, I believe that there would also be more 'out-of-the box' thinking in the workplace, and work would be much more fun – not frivolity, but play that frees and inspires creativity – for both men and women!"

- The feminine is more inclined to acknowledge and honor the past as a springboard for any change or further development. "It is one of those cosmic counterintuitive things that the most visionary, forward-thinking and effective leaders are those who can unabashedly conjure up the lessons of the past, and apply them in a positive way to the future. And find solace in those lessons."

- "Ceremonial processes and reflection are ways to tap the vast hidden resources that are needed to remain faithful to the road less traveled."

- "If there were more feminine influences at the higher levels of leadership in science, I believe that skills such as being a team player, an excellent communicator and working toward the common goal would be valued more highly. There would hopefully be less posturing and more value placed upon the means by which the end was reached, rather than reaching the end by any means necessary."

- "Less 'cowboy' mentality (cowboy, as in pushing forward ideas without knowing if they are actually achievable or pushing personal agenda without full buy-in)."

- **Change dynamics, as affected by**

- o *Receptivity to change as an organic process*

  - ▪ "I believe strongly that women are more robust to change, and that higher levels of feminine leadership would result in a scientific culture that move more quickly than is seen today, as if today's pace of change isn't exhausting enough. …The feminine is less controlling, and organizations led by women may have a chance of growing more organically. This could be a good thing, organic growth being more responsive to needs and opportunities than more structured growth. Organic growth needs to be tempered, however, by masculine-type infrastructure (dams and highways)."
  - ▪ "I still struggle to understand the differentiation between the 'masculine' and the 'feminine.' … I think [the feminine] is more holistic as opposed to linear. Linear is cause and effect. … [T]here would be more consideration of the perturbations or impacts on the whole system (including people who make it happen, products that result, etc.). It's not so much about the result, as the approach."

- o *Greater flexibility in the workplace*

  - ▪ "Basically, I think that interactions would be more collaborative rather than competitive and there would be more flexibility in the workplace. Performance expectations wouldn't change, only exploration of options and different ways to get the work done. In my experience, women at the most senior levels in my company exhibit a lot of the behavior that senior men do unless you are behind closed doors. I think it would be a qualitative shift that would have to come from the top of the organization."

FFLS – WHAT NEXT?

The strongest request to arise from FFLS conversations – individually and as a group – was for "peer mentorship." They were curious about and wanted to experience more of the richness and strength they found in our shared exchange. Our exchange was distinct from other professional development forums for them. They wanted to learn and help each other together in peer-oriented dialog. It opened a possibility for exploring and defining who they want to become as women scientists who more powerfully lead people for greater collaboration and fulfillment of dreams.

Responsive to their request, I created a program of **Transformational Leadership Circles™** in which 12 of 19 FFLS participants participated. Our circles addressed questions that emerged for FFLS participants during the study. Their antidote to the pain of feeling marginalized and not belonging was to deepen their self-trust and further empower themselves to make the contribution and difference they feel called to make. Each woman was looking for ways to move forward more effectively on her own terms. Each had vital choices to make about empowering herself to meet needs for achievement, fulfillment, well-being, contribution, healing, community, advancement, etc.

In a forum designed for safe inquiry, they reflected and shared insights about what they call on to renew, reorient and re-motivate themselves and to re-humanize their experience. We took a deeper look at how they nurture their dreams and resilience, especially in the face of persistent inequity, resistence and challenge. They asked:

- If what you face is "death by a thousand cuts," how do you sustain a healthy, resilient sense of self?
- If you must collaborate and be heard in a hostile or uncivil work environment, what personal ethic and presence do you need to embody and how do you communicate to invite more "collegial" and mutually supportive behavior?
- If you disrupt gender expectations and norms by how you lead, how do you build trust and willingness to work together anyway?
- If your key leaders around you do not have your back, how do you protect your boundaries and find necessary champions to give you a leg up?
- If you experience bias in performance evaluation or double standards in development opportunities, what can you do to empower yourself and take initiative to grow?

Together we keep asking … "What will it take for you to thrive where you are planted now or choose to plant yourself next?"

FFLS – What Now?

My *Feminine Face of Leadership in Science* study reflects the stories of nineteen PhD-women scientists leading in San Francisco Bay Area businesses in 2003. Do these *FFLS Findings* represent something significant and relevant about the climate for women scientists choosing to lead in business today? What climate change is needed and is on the horizon? A quick Google search for studies about women scientists as leaders in business reveals that the pain, patterns and challenges idenitified by my FFLS participants are as prevalent today as ever. With a sober assessment of any situation the way it is, we look to open new possibilities of perception, interpretation, choice, and skillful action.

Awareness is growing about persistent obstacles women face in STEM professions. Does it matter that women are leaving positions in STEM at higher rates today at every stage of their careers?

We spend more time working than doing anything else in life. It's not right that the experience of work shoud be so demotivating and dehumanizing. Laszlo Bock – Work Rules!

Who "wins" by perpetuating a system of business as usual? Is there a business case for keeping things the same? How about the business case for individual and systemic change? What indicators create a sense of urgency, demanding individuals become more accountable for creating conditions for greater well-being

and sustainable growth? Who needs to be "on board" for change efforts to create a multiplier effect and a "new normal?"

Providing answers for these systemic questions is outside of the scope of this study. Even so, our FFLS conversations opened a "pandora's box" for an exchange of concern, mutual support and great ideas. Many of the FFLS participants – and not just those who had "made it" – were then and are still now actively involved in larger initiatives to stem the tide for women in STEM professions. These are brilliant, powerful women determined to advance their careers and make a difference. They are not waiting for the world to change.

They want to "get on with it."

To that end, they seek out ways to manage their energy, navigate the landscape and provide value. FFLS participants were curious about leadership qualities they admire and can inhabit as authentic expression of who they are. Especially where they felt victimized by forces outside their control, the urgent question was: "How can I make this better?" Her hero's journey was well underway.

Internal obstacles are rarely discussed and often underplayed. Throughout my life, I was told over and over about inequalities in the workplace and how hard it would be to have a career and a family. I rarely heard anything, however, about the ways I might hold myself back. These internal obstacles deserve a lot more attention, in part because they are under our control. We can dismantle the hurdles in ourselves today. We can start this very moment.   Sheryl Sandberg – Lean In: Women, Work and the Will to Lead

Welcoming the feminine in science means addressing the fact of persistent gender expectations, inequity and unconscious bias. Welcoming the feminine in science challenges what is essential for effective leadership and collaboration. Welcoming the feminine in science might mean a C-change in what is valued and considered powerful. What if, instead of fighting for tolerance, consideration or acceptance, the "feminine" were sought out and cultivated in both men and women as a competitive advantage? How does that tranlate into embodied commitment and action for women and men, alike?

Women are changing the face of leadership in science. Who must each woman become to master the challenges before her now? What is her unique leadership story and what future does it open for herself and others? Tired of a stance of defiance and defense, the women I met in this study were hungry for ways to embody and move effectively with their innate power. Eventually, the call for authenticity and fulfilliment demands new priorities.

Beata Lewis, JD, MSC – Bridging Lives

As an Executive Coach and Change Consultant, Beata provides guidance for masterful leadership, collaboration and sustainable growth in business. For nearly two decades she has worked with highly accomplished professionals leading innovation, especially in science, technology, sustainable enterprise and the arts. She guides complex, sensitive and strategic processes to catalyze intentional transformation for individual leaders and leadership teams. Using a multidisciplinary, systems-oriented and integrative approach, Beata helps clients call forth their capacity to amplify and direct human potential, creativity, and aliveness in leading ventures that thrive.

Certified since 2003 as a Master Somatic Coach, Beata works masterfully with the human elements essential for durable, embodied leadership, collaboration and change. Clients grow in their capacity to lead with greater communication, power, trust and presence. Adjunct Faculty and Mentor from 2008-2015 with the Green MBA program of the School of Business & Leadership at Dominican University of California, Beata is attuned to individual, group and systemic dynamics for leading sustainable enterprise. She has served as a coach for students at the Stanford University Graduate School of Business and to clients of the Women's Technology Cluster (now called Astia). A mediator and former attorney, she leverages the vital and dynamic nature of agreements, ethics, and conflict for more creative and productive partnering. Clients value Beata's incisive, practical expertise in facilitating complex, sensitive conversations and strategic change processes with depth, insight, focus, humor and balance. She helps clients grow their power of presence, evolving from being knowledgeable leaders to being wiser ones.

APPENDIX 1

What are 5 qualities or attributes about you that define you as a good, successful leader?	What are 5 qualities or attributes about you that tend to undermine your success as a leader?
Optimistic	Unsure
Intuitive	Unforgiving
Creative	Hurried
Authentic	Too cerebral
Forgiving	Disconnected
Modest/Patient	Sometimes overly quick or overly slow to form a critical opinion
Inclusive	Can be overly accepting of others' short-comings and inadequacies
Organized/Hard-working	Generally need more push to go up against much older men who I perceive as more resistant
Creative	When the going gets rough, I detach too easily
Strategic	Not flexible or skilled enough at assuming an effective command-and-control style when needed
Open	Fearful
Credible	Time-pressured (too fast for others)
Integrity	Not candy-coated (seen as not tactful/political)
Compassionate	Break rank (while seeming to go with program)
Empowering	Unclear (assume too much)
Inclusive	Impatient
Bottom-line oriented	High expectations (low tolerance when unmet)
Communicative	Sometimes not care about other point of view
Fact-finding	Act of lack of full information
Caring (but still bottom line)	Lack of availability
Promote "ah-ha" for others	Calm – not play cheerleader role
Clarity in articulating issues	Can diffuse things too quickly
Incisive and probing	Too grounded in reality
Calm	Consistently pushing edges
Intense	Difficulty connecting to what motivates others
Decisive but fair	Avoid conflict
Communicate from the heart	Too easily influenced (not listening to own gut)
Give priority to recognition	Not always willing to take charge
Inclusive	Not trust self enough (seek outside authority)
Get people aligned behind a goal	Not manage time or prioritize well enough
Charismatic	Lots of second-guessing (low self confidence)
Credible	Huge sense of responsibility
Extremely accountable	Too perfectionist
Confident	Set standards for others as high as for self
Compassionate	Desire to be with family (diverts focus)
Take-charge	Too forthright/aggressive in expression
Willing to stand up for the right thing/make waves	Inexperience in business & financial contexts
Vocal	May inhibit other ideas (know "right" way)
Fair	Too much a scientist (accuracy 1st!)
Diplomatic	Too freely honest
Approachable	Too emotionally involved in work
Passionate about what I do	Too worried about what others think of me
Care that people achieve with satisfaction	Don't know how to say "no"

Dependable	Not like to share about what I'm doing until done
Clear & articulate in explaining things	Feelings easily hurt – tend to dwell on it
Strategic	Need to understand WHY people do what they do
Goal-oriented	Not as warm as I could be
Objective	Intolerant about having to explain repetitively
Fair	Rush to decisions – impatient
Honest	Direct & impatient with people who won't make necessary changes
Consensus oriented	Consensus oriented
Flexible regarding a person's larger context	Physical stature / youthful appearance
Nurture relationships	Have an opinion about details when I delegate
Non-linear planning & multi-tasking	Need to improve business development skills
Well organized	Difficulty in negotiating to maintain certain "bar" or standards (fear being perceived as greedy)
Quality of energy (motivating, inspiring)	Frustrated and impatient when people "don't get it"
Respect people's time, constraints, lives	People can feel I'm holding them to the impossible
Encourage people to share concerns	Can be hard on those not pulling their weight
Hold people to high standards	Want people from very different backgrounds to be able to feel comfortable with me
Recognize people for their contributions	Sometimes create my own barriers
Observant / aware	Perfectionist (I need to lighten up!)
Goal-oriented	Tenacious to a fault
Open-hearted and positive	Tend to take things on rather than distribute problem solving
Willing to be reflective	Lack of confidence in self
Choose to have fun	Tend to react defensively (without compassion) when I take things personally
Motivational	Need all the facts to "push" something; and when I've got all the facts, hard to get me to back down
High conviction and sense of initiative	Physical presence – nervous, fidgeting
Make things real for people (quality of connectedness)	Tend to assume a collective vision rather than clarify it together
Focus on what can be done (overcome obstacles)	Appear aloof
Meet my commitments	Tend not to celebrate milestones
Passion – obvious and powerful	Very emotional at times
Strategic thinking – strong ability to synthesize data	Impatient in allowing people to go through their process; tough to wait and keep quiet
Cultivate loyalty – genuine caring for partners	Not like dealing with details
Capacity to know the science and transfer the understanding to others fields (e.g. financial)	Can be abrasive, especially when people not listen or I have to correct them multiple times
Super committed to balance	Often not a good listener
Ability to trust my gut in making decisions	
Results-driven	Overcoming inattention to how people feel about things; need to balance results focus with attention to how we get there
Clear communication	In the interest of getting things done, can sacrifice schmoozing (influencing people)
Clear about roles and responsibilities	Not fit larger corporate mold
Big picture: know where going and why	Tend not to trust intuition/gut – want all data 1st!
Emphasize recognition and rewards	Always pressed for time; need to reflect more
Fair & honest	Too open with information; hard to figure "need to know"

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	for keeping people informed
Open to ideas and information	In demeanor and communication style can come across as judgmental and abrupt
Able to inspire and mobilize people	Want a clear vision to focus on even when priorities change and things are in flux
Interested in people's path and welfare (not just job)	Find myself in situations where lack necessary expertise
Trustworthy	Often have had leadership role but dis-empowered by other things happening in company
Courageous	Can be inflexible
Equitable	Under-reward people
Straight-forward (no "bull")	Sometimes more focused on how people work together than on the science
Broad knowledge (get how things interrelate)	Can be too open (provide ammunition against me)
High standards	Can give people too much benefit of the doubt
Encourage & reward people's strengths	Compassionate
Give appreciative feedback	Overly emotional
Stand up for my people and what I believe in	Not politically savvy enough
Adaptable & take corrective measures for growth	Tend to speak / act before sufficient reflection
Visionary	Need to be better listener