

# Implementation and Evaluation of the Johns Hopkins University School of Medicine Leadership Program for Women Faculty

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## Abstract

**Background:** Women continue to be underrepresented in top leadership roles in academic medicine. Leadership training programs for women are designed to enhance women's leadership skills and confidence and increase overall leadership diversity. The authors present a description and evaluation of a longitudinal, cohort-based, experiential leadership program for women faculty at the Johns Hopkins University School of Medicine.

**Methods:** We compared pre- and post-program self-assessed ratings of 11 leadership skills and specific negotiation behaviors from 3 cohorts of leadership program participants ( $n = 134$ ) from 2010 to 2013.

**Results:** Women reported significant improvements in skills across 11 domains with the exceptions of 2 domains, Public Speaking and Working in Teams, both of which received high scores in the pre-program assessment. The greatest improvement in rankings occurred within the domain of negotiation skills. Although women reported an increase in their negotiation skills, we were not able to demonstrate an increase in the number of times that women negotiated for salary, space, or promotion following participation in the program.

**Conclusions:** The Johns Hopkins School of Medicine Leadership Program for Women Faculty has demonstrable value for the professional development of participants and addresses institutional strategies to enhance leadership diversity and the advancement of women.

## Introduction

THE SUCCESS OF ACADEMIC HEALTH CENTERS (AHCs) rests on the ability to recruit, retain, and promote a diverse and talented faculty. It is also important to develop skilled, effective, and diverse leaders to navigate an increasingly complex health care environment. AHCs have made progress in increasing the number of women faculty to 37% nationally; however, women remain underrepresented in top leadership roles. In 2011, women made up only 12% of deans of United States medical schools, 14% of department chairs, and 24% of division/section chairs.<sup>1</sup>

Among the barriers cited to women's advancement to top leadership positions are a lack of women role models, limited and ineffective networks and sponsors, the persistence of gender stereotypes regarding leadership attributes, and workplace structures that may negatively impact women. In addition, the culture at AHCs can inhibit women's ability to fully participate in career advancing opportunities.<sup>2-8</sup> Women may also struggle to develop an effective "leader-

ship identity" whereby they have the opportunity to "stretch" themselves in ways that build confidence around their personal leadership efficacy.<sup>9</sup>

The path to leadership remains a complex one for women to negotiate. Leadership training programs for women represent one intervention to increase leadership diversity at AHCs.<sup>10,11</sup> Such training programs for women may serve the dual purpose of building a skillset of leadership competencies and also creating opportunities for women to "try on" leadership identities.

## Methods

In 2006, in response to a series of reports outlining the status of women at the Johns Hopkins University School of Medicine (JHUSOM), the Office of Women in Science and Medicine (OWISM) was created under the direction of the School of Medicine Dean's Office and the Vice Dean for Faculty. The OWISM is directed by the Associate Dean of Women in Science and Medicine. The mission of the

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OWISM is to foster the academic progress of SOM women faculty through education, advocacy, mentoring and networking. One specific goal of the OWISM is to improve pathways to leadership and career advancement for women. Prior to 2009, there was no leadership training targeted specifically to women at the JHUSOM. Through the OWISM, the Leadership Program for Women Faculty (LPWF) was developed to support the mission and goals of the OWISM. The first LPWF cohort began in the fall of 2009.

In this article, we describe the LPWF, including program goals, curricular components, and evaluation methods. We also present evaluation data for cohorts 2–4 of the program.

*Goals of the Johns Hopkins University School of Medicine, Leadership Program for Women Faculty*

The LPWF was developed to enhance leadership skills and networking opportunities for women faculty. The specific goals of the LPWF are to develop Johns Hopkins University School of Medicine women leaders who will contribute to future initiatives throughout the school, retain emerging female leaders by providing a prestigious and challenging learning experience that may lead to new opportunities and promotion, and advance the school of medicine’s core values of diversity and inclusion.

*Program structure*

The LPWF comprises nine, half-day interactive sessions that are offered from September to June. The curriculum was developed after conducting a review of the literature on the status of women in academic medicine<sup>5,12–15</sup> and then tailored to the specific environment of the JHUSOM. Specifically, several university and school of medicine level committees had been convened since 2002 to address the

issue of the advancement of women. Each of these committees identified leadership as an area for focus to promote gender equity and to advance women’s careers.

The LPWF focuses on specific gender and leadership content areas as well as the institutional culture and uses both to accomplish curricular goals. The program provides a safe environment for women to network with other women interested in leadership and for participants to explore their own leadership identity through the content and educational activities. An underlying theme of the program is to raise awareness of gender stereotypes and their impact on women’s careers.

The LPWF includes 8 modules (Table 1). Each session begins with unstructured time for participants to network. The LPWF includes opening and closing events that highlight current women leaders in the SOM as guest speakers. The modules are designed to promote experiential learning by incorporating interactive case studies, facilitated discussion, skills building using role-play, and reflective practice. Modules are facilitated by trained staff from the Office of Faculty Development, SOM faculty, and outside consultants with subject matter expertise.

The cost of the program for individual participants is covered using a JHU tuition remission for staff development personal benefit. The OWISM covers all other costs such as food and administrative support. There is no direct cost to women faculty or their departments.

*Program participants*

Women faculty who demonstrate leadership potential are identified to participate in the program. Recruitment for the course begins with an email from the Director of the OWISM to departmental and divisional leaders across the School of Medicine and then to women faculty. Women can

TABLE 1. EIGHT LEADERSHIP PROGRAM FOR WOMEN FACULTY MODULE TITLES AND DESCRIPTIONS

<i>Module</i>	<i>Description</i>
Working Together: Getting to Know Yourself and Others Crucial Conversations	In this module participants develop a better understanding of their own leadership style using the Myers Briggs Type Indicator (MBTI). The objective of this module is to develop methods for individuals, teams and organizations to demonstrate an ability to engage in meaningful dialogue to effectively manage crucial high stakes, emotion-laden conversations.
Speak Like a Pro	The objective of this module is to build individuals’ knowledge, skills, and abilities needed for effective presentations.
Influencing for Impact: On Being Influential and Influence and Power: Case Study on Rosalind Franklin (2 sessions)	This module explores the influence of gender on communication styles. Participants reflect on and identify their preferred influencing styles and strategies. This session includes discussing the Nova documentary on Rosalind Franklin, whose work contributed to the discovery of the double helix but was never recognized.
Creating Agreement and Managing Conflict	The objective of this session is to improve one’s ability to foster agreements and manage conflict within and between work groups to strengthen relationships, transform ideas into initiatives, and increase effectiveness.
Leadership Challenges for Women: Overview of Decision-Making and Risk-Taking Strategies	The objective of this session is to provide participants with the opportunity to reflect on their preferred decision-making and risk taking styles. The session helps participants to identify barriers preventing women from confident decision-making and explores a strategic process that increases one’s visibility and credibility in the organization.
Leadership Challenges for Women: Facilitating Group Decision-Making	The objective of this module is to present John Heron’s decision-making model for groups emphasizing the role of the leader in facilitating group decision-making. Participants engage in reflection and a variety of skills building activities.
Total Leadership	This module focuses on values clarification and work life balance as these relate to personal leadership goals and behaviors.

be nominated or self-nominate. If nominated, the nominator must write a letter of support. Nominees are then invited to submit an application that includes a current curriculum vitae and a short essay describing their current leadership roles and aspirations. A selection committee comprised of senior women faculty review applications and score applicants. The domains utilized to generate a composite score include years at rank, career objectives, mentorship of others, team building, and independent leadership experience. Women are selected to participate based on their cumulative score; however, attention is also given to the composition of the class in terms of specialty, career track, and race/ethnicity.

Between 2009 and 2011 (cohorts 1–3), women from all ranks were accepted into the program. In 2011, the demand for participation was so high that a second program was created for more junior faculty—the Emerging Women’s Leadership Program—which debuted in January 2012. Subsequently, only senior assistant, associate, and full professors were admitted into the LPWF.

#### LPWF evaluation method

LPWF participants in cohorts 2–4 completed pre- and post-program questionnaires. Questionnaires were distributed electronically with email reminders to enhance response rates. Compensation was not provided for completing the questionnaire. Questionnaire items were designed by the program developers to evaluate both the goals of the program broadly as well as the content of the individual modules. The questionnaires asked participants to rate their level of skill in 11 leadership domains with 4 response categories: high, medium, low, and very low. We also asked participants to report on their negotiation behaviors; specifically, participants were asked how many times during the past year (assessed pre-program) they had negotiated for salary, resources, and/or promotion. Immediately upon completion of

the program, participants were asked how many times during the 10 months of the program they had negotiated for the same. We then asked participants to rate the success of their negotiation efforts as poor, intermediate, or good. Finally, participants provided qualitative comments on the perceived value of the course to their overall professional development. Demographic data were collected via the questionnaires and institutional faculty data available through the Office of the Registrar. We piloted the questionnaire as a post program only evaluation with cohort 1 and then made adjustments to its content and administration. Evaluation data from cohorts 2–4 are presented here. A Johns Hopkins Medicine Institutional Review Board approved this evaluation method.

#### Data analysis

Data were pooled for analysis and a cohort indicator variable was retained. Level of skill was dichotomized as medium to high versus very low to low. Data on frequency of negotiation were dichotomized as one or more times versus never. We determined the proportion of women in each of the aforementioned categories during the pre- and post-program evaluation. Proportions (pre- and post-program) were compared using chi-squared statistics or Fisher’s exact tests as applicable. Significance level was set at  $p < 0.05$ . Data analysis was conducted using Stata Statistical Software: Release 11 (Stata Corp LP, College Station, TX).

To address the issue of post-program survey response drop-off, a sensitivity analysis was performed assuming that participation in the program had no effect. Thus, we imputed the post-test data using the pre-test values for each subject missing the post-test. Performing this analysis was only possible for the last cohort, as we did not have information to link pre- and post-program responses for the other cohorts. The statistical significance of the findings did not change for

TABLE 2. DEMOGRAPHIC CHARACTERISTICS OF THE 174 WOMEN FACULTY PARTICIPATING IN THE LEADERSHIP PROGRAM FOR WOMEN FACULTY

Characteristic	Cohort 1 2009–2010 (N = 40)	Cohort 2 2010–2011 (N = 45)	Cohort 3 2011–2012 (N = 50)	Cohort 4 2012–2013 (N = 39)	SOM women faculty <sup>a</sup> (N = 748)
Number of applicants to LPWF	62	79	80	59	280
URM, <i>n</i> (%)	4 (10%)	3 (7%)	4 (8%)	2 (5%)	59 (8%)
Rank, <i>n</i> (%)					
Assistant	25 (63%)	28 (62%)	29 (58%)	22 (56%)	453 (61%)
Associate	14 (35%)	17 (38%)	18 (36%)	11 (28%)	174 (23%)
Full Professor	1 (2%)		2 (4%)	4 (10%)	121 (16%)
Other			1 (2%)	2 (5%)	
Department, <i>n</i> (%)					
Medicine and medical specialties	25 (63%)	31 (69%)	35 (70%)	23 (59%)	
Surgery and surgical specialties	12 (30%)	11 (24%)	12 (24%)	6 (15%)	
Basic sciences	3 (7%)	1 (2%)	0	0	
Other <sup>b</sup>	0	2 (4%)	3 (7%)	10 (26%)	

In 2009, women faculty at all ranks were accepted into the LPWF program. In 2012, a second course, the Emerging Women’s Leadership Program was created for junior women. Following that, only senior assistant professors (deemed to be within 1–2 years from promotion to associate professor), associate professors, and full professors were accepted into the LPWF.

<sup>a</sup>*N* represents full-time SOM women at the ranks of assistant, associate, and full professor. Data supplied by the Office of the Registrar, SOM.

<sup>b</sup>In 2010, the LPWF began accepting women faculty from across the University whose primary appointment was outside the SOM including the School of Nursing, School of Engineering, and School of Public Health.

LPWF, Leadership Program for Women Faculty; SOM, School of Medicine; URM, underrepresented minority.

any of the questions (11 domains listed in Table 2; drop-off data not shown).

Qualitative comments were initially analyzed by one researcher (RBL) using an “editing analysis” style in which the researcher reads the comments to identify meaningful concepts that arise de novo or that relate to the purpose of the study. A list of major themes was first developed using this method, and this list was then reviewed and revised with all authors in an iterative process. Representative quotes were selected by consensus.

**Results**

Since the inception of the LPWF in 2009, 174 women have participated in the LPWF. A total of 280 women have been nominated for an overall acceptance rate of 62%. Table 2 shows the demographic characteristics of LPWF participants from cohorts 1–4. The pre- and post- program questionnaire response rates were 80% and 58% for cohort 2, 86% and 76% for cohort 3, and 92% and 69% for cohort 4.

Table 3 shows the percentage of participants in cohorts 2–4 reporting a medium to high level of skill in each leadership domain before and following participation in the LPWF. Participants reported increased skill across the majority of domains for all cohorts with the exception of Working in Teams and Public Speaking, where participants had rated

their skill level as high prior to taking the program. In four domains where women rated significant improvement in their skills, they had rated themselves relatively low prior to the LPWF: Dealing with Difficult Behavior, Negotiation Style, Gender-Based Differences in Decision Making, and Influencing Others. The pre-program ratings for medium to high level of skill for these items did not exceed 40%.

Participants stated the number of times they had negotiated for salary, space, promotion, or other resources in the year prior to taking the program and during the 10-month duration of the program. Only one significant increase was identified in the number of times women reported negotiating for a promotion in cohort 2 (pre 37% vs. post 65%,  $p=0.04$ ) (Table 4). We did not find any significant improvements in the reported success of women’s negotiation efforts when women were asked about this immediately following participation in the LPWF (data not shown).

*Open-ended responses*

In the post-program evaluation, participants were asked to comment on how they felt the program had impacted them. Two major themes were identified: (1) Networking and reflecting with other women is valuable, and (2) Negotiation skills are important and can be developed. Table 5 includes representative quotes from participants’ qualitative comments.

TABLE 3. PROPORTION OF LPWF PARTICIPANTS FROM COHORTS 2–4 REPORTING MEDIUM TO HIGH VERSUS VERY LOW TO LOW SKILL LEVEL IN 11 LEADERSHIP DOMAINS ON PRE- AND POST-PROGRAM QUESTIONNAIRES

Domain	Cohort 2			Cohort 3			Cohort 4		
	Pre-test (N=36) % <sup>†</sup>	Post-test (N=26) %	p	Pre-test (N=43) %	Post-test (N=38) %	p	Pre-test (N=36) %	Post-test (N=27) %	p
Developing a mission statement	47	89	<0.001	58	100	<0.001	44	100	<0.001
Working in teams	92	100	0.26	81	97	0.02	89	100	0.13
Crucial conversations*	58	84	0.05	47	95	<0.001	47	100	<0.001
Dealing with difficult behavior*	39	85	0.001	30	87	<0.001	28	96	<0.001
Public speaking/ presentation skills*	81	96	0.12	67	92	0.01	83	100	0.04
Understanding “influencing style”***	62	96	0.002	52	92	<0.001	44	100	<0.001
Understanding gender based communication differences	56	100	<0.001	42	92	<0.001	53	100	<0.001
Negotiation style and skills	19	89	<0.001	28	90	<0.001	22	100	<0.001
Understanding gender difference in decision making*	39	92	<0.001	30	95	<0.001	25	100	<0.001
Enhancing decision making	53	92	0.001	35	92	<0.001	39	96	<0.001
Influencing decision making in groups*	39	89	<0.001	26	90	<0.001	25	92	<0.001

Data shown for 134 participants in cohorts 2–4 (N=206 for cohorts 1–4).

\*Missing values (1–2).

\*\*Missing values (3 or more).

<sup>†</sup>Pre and post percentages only are presented.

TABLE 4. PROPORTION OF WOMEN REPORTING NEGOTIATING ONE OR MORE TIMES VERSUS NEVER DURING THE 12 MONTHS PRIOR TO TAKING THE PROGRAM AND DURING THE 10-MONTH PROGRAM

	Cohort 2 (N=62)			Cohort 3 (N=81)			Cohort 4 (N=63)		
	Pre (N=36) n (%)	Post (N=26) n (%)	p	Pre (N=43) n (%)	Post (N=38) n (%)	p	Pre (N=36) n (%)	Post (N=27) n (%)	p
Salary	15 (42)	10 (39)	1	18 (42)	22 (58)	0.18	28 (78)	20 (74)	0.77
Space	19 (53)	19 (73)	0.12	27 (63)	25 (66)	0.82	31 (86)	24 (89)	1
Promotion	13 (37)	17 (65)	0.04	18 (42)	15 (41)	1	17 (47)	11 (41)	0.79
Other	25 (69)	21 (81)	0.38	29 (67)	26 (68)	1	28 (78)	23 (85)	0.53

N=206.

Pre, prior to taking the LPWF program; Post, during the program.

## Discussion

We found a significant improvement in participant's self-rated skills across a majority of leadership domains following participation in a longitudinal, cohort-based, experiential leadership program for women. Our findings suggest that for our population, we correctly identified important areas for development and that the content was delivered in a format that enhanced perception of learning for participants.

Formal leadership training has been put forward as a response to the stagnant advance of women into top leadership roles in business settings and academic medicine.<sup>9,10,15,16</sup> Our experience with the LPWF demonstrates the value of providing professional development and training in leadership skills to women. Morahan et al. present a framework to promote women leaders in academic medicine.<sup>10</sup> This framework highlights the developmental nature of a woman's path to leadership and argues that women experience different professional development needs and opportunities at varying times in their careers. Using this developmental approach, institutions may contribute to the success of women leaders by addressing four key areas that include: (1) equip

the women, (2) create equal opportunities, (3) value relational skills and increase visibility, and (4) assess and revise work culture.<sup>10</sup> We believe the LPWF at JHUSOM, to some extent supports all four critical areas.

Our program provides effective training in specific skills necessary for academic advancement and leadership. Traditionally, professional development for academic physicians has most often occurred through mentoring and networking. Women in business and academic settings lag behind men in access to quality mentorship and effective networks.<sup>2,17</sup> The LPWF helps to "equip the women" and creates more equal opportunities in that women receive professional development that they otherwise might not gain if they lack mentors and sponsors or if they are unable to attend outside leadership training programs. The LPWF emphasizes networking within cohorts and with guest lecturers who include women institutional leaders and school of medicine deans. This provides participants with the opportunity to practice important networking skills and expand networks as they gain exposure to a diverse group of women colleagues and institutional leaders.

The existence of the LPWF and the nomination process may help to raise the visibility of women as leaders and begin

TABLE 5. REPRESENTATIVE QUOTES FROM QUALITATIVE COMMENTS

<i>Networking and reflecting with other women is valuable</i>	<i>Negotiation skills are important and can be developed</i>
I enjoyed this time to develop skills and reflect and interact with others facing similar challenges.	I learned skills that helped me with negotiating a new position and gave me an appreciation for others and their leadership styles.
I learned how important networking is.	The negotiation and crucial conversations skills were critical in my regrouping, meeting with my chair, and requesting that I be able to use the excess in my collections to hire a research assistant
The program put me in touch with other women in similar places.	The greatest change for me resulting from the program was a dramatic improvement in my negotiating skills when negotiating for myself rather than for others.
Most important was networking with other women in the institution.	Most importantly, in this negotiation, I believe that I approached it completely differently than previous conversations with my chair, and I was much more direct about what I thought would be fair.
The contacts that I have made are important to me. Allowed me a broader perspective of my role in the organization and helped me to feel more connected to the organization itself.	The program gave me insight into not only how I interact and am perceived by others, but greatly helped me understand those around me better.... This has allowed me to better collaborate/negotiate issues with them.
Being part of a group of bright women who are considering these and other issues together was very helpful.	I had never considered negotiating prior to this program and now realize its value and importance

to address the work culture. The nomination process involves contacting all department and division leaders to put forward women for the program. In this process, existing unconscious biases and mental models of what a leader “looks like” may be challenged, as nominators are primed to think of all women in their departments as potential leaders who may benefit from the program. Following the program each year, participants’ names are posted on the OWISM website, and all nominators receive a letter making them aware that their nominee completed the leadership training program. Finally, women may be more likely to value themselves as leaders because the institution, through support of the LPWF, demonstrates that it values women leaders. Potential changes to the curriculum that may further promote culture change would be to have program participants work on focused projects that specifically address issues such as family friendly work policies, flexible promotion paths, and practices, programs to support greater sponsorship of women, or issues identified by participants as important.

The finding that one specific leadership domain, negotiation, received the lowest pre-program scores merits greater scrutiny. Participants’ assessment of their skill at negotiation across all cohorts was the lowest-rated item for all domains in the pre-program questionnaire. The ability to accurately self-assess one’s skills has been shown to be inconsistent across many domains and this might be one explanation.<sup>18</sup> Another explanation might be the impact of gender stereotypes around negotiation. There is a large body of literature exploring the issue of gender differences in negotiation style and outcomes. While conclusive evidence that men are more successful at negotiation is lacking, gender stereotypes that hold women to be less successful negotiators prevail.<sup>19</sup> Our data suggest that negotiations may be an area of particular interest and a place to focus greater faculty development and leadership training efforts for women.

The evaluation of our program has limitations. First, we did not include a comparison group in our evaluation plan. Second, we assessed self-reported changes in skills using a nonvalidated survey instrument. Interpretation of the survey questions may have varied across participants. Third, we do not have outcome data such as changes in leadership composition and measures of academic advancement for participants of our program. Fourth, it is difficult to control for other factors that may have influenced participants’ perceptions of their skill level while participating in the LPWF. However, our findings were highly significant and consistent across cohorts and over time. Fifth, while overall we had very high response rates to our questionnaire, response rates did fall off in the post-program evaluations. Those who chose not to complete the post-program evaluation may have reported no change or lower ratings. Finally, we do not have long-term follow up data to assess how lasting the reported changes in skills and behaviors are. For example, we may have found greater changes in negotiation behaviors if we had follow-up data beyond information garnered at the end of the program.

The Johns Hopkins University School of Medicine Leadership Program for Women Faculty appears to be of value to women in terms of increasing their skills in important leadership domains, particularly around negotiations. Opportunities to build critical professional development skills might not otherwise be available to women without a dedicated leadership program. The LPWF may also serve the purpose

of raising the visibility of women as potential leaders and ultimately addressing work culture in a way that is beneficial to all faculty. Moving forward, we need to employ more rigorous evaluation methods using comparison groups and long-term outcomes such as leadership roles and advancement of women.

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### Author Disclosure Statement

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