

Long-Term Impact of COACH – Results from a Survey Administered in 2015-16

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This report summarizes responses to an internet-based survey sent to women chemists who attended COACH-sponsored workshops co-located at the National American Chemical Society meetings from 2006 to 2010. Ninety-two women responded to an initial mailing of the survey in March, 2015, and 92 attendees responded. An additional 22 people responded to a second mailing in April, 2016.¹

The survey followed the format of a 2007 survey sent to people who had attended COACH sponsored workshops, described in a 2010 article in *Journal of Chemical Education*. Questions were designed to examine the impact of the workshop on their interactions with others and their careers as well as to gather information on their career experiences. The first section below summarizes respondents' reports of the impact of the workshops and how often they used the skills that were taught. The second section summarizes information on the characteristics of the respondents, and the third examines the way in which respondents' characteristics and career experiences were (or were not) related to the reported impact of the workshop. The fourth section compares data from this survey and that gathered in 2007, and a final section summarizes respondents reports of how COACH could help them in the future.

How Did the Workshops Impact Work-life and Careers?

The impact of the workshops was examined through two series of Likert type questions and one open-ended question. The first set focused on the extent to which the skills presented at the workshop had helped attendees in their interactions with others and in career-related issues. The second focused on how often they used specific communication and negotiation skills that were taught.

How Helpful Were Skills Taught in the Workshops?

Table 1 summarizes the respondents' reports of how much the skills they learned at COACH helped improve their interactions with others in the workplace. Only a small minority (ranging from less than one percent to ten percent) reported that the skills had not helped at all. Over half said that the skills had helped in each of the areas either a "fair amount" or "quite a lot." The greatest benefits were reported for helping negotiate for oneself, negotiate on behalf of others, and feeling more in control of one's career. The least reported benefits involved the quality of interactions with students and administrative staff – all groups that are generally subordinate in status to the respondents.

Table 2 summarizes the respondents' reports of the extent to which the skills had helped in specific career related outcomes. Improvements were most common regarding developing supportive networks and improving climate, which were marked "a fair amount" or "quite a lot" by over three-fifths of the respondents. Over half of the respondents indicated that the skills had helped a fair amount or quite a lot in all other areas except teaching load and research support, areas that might be less open to negotiation or exceptions for individuals.

¹ Priscilla, can you please add the details of how many people were on the mailing list so we can calculate response rate. Also the dates that they attended the workshop? Thanks.

The respondents' reports of how much each of the skills had helped them were highly correlated. Thus, for the statistical analyses reported below, the responses were combined into an additive scale (coefficient alpha = .95).

How Frequently Do Respondents Use the Skills?

The respondents were asked how often they used each of the skills that had been taught in the workshops. Table 3 reports the results regarding skills taught in the Communications Workshop and Table 4 reports results for skills taught in the Negotiations Workshop. Over half of the respondents reported that they "always" or "often" used 11 of the 13 communication skills. The most commonly used skills were "understanding the other's position," "clarifications of purpose or objective," and "preparation, such as research, materials and allies." The two skills that were less often used were the only ones that are physical in nature: "holding steady" (breath control) and doing a "physical or vocal warm-up." Again, responses to these questions were highly correlated. For the statistical analyses they were combined into a summative skill that denotes the number of communication skills marked as using always or often (coefficient alpha = .87, mean = 7.3, s.d. = 3.4).

Results regarding the negotiation skills, reported in Table 4, were similar. Two-thirds or more of the respondents reported that they always or often used four of the ten skills that were taught: listening and responding, providing options for a solution, identifying and meeting mutual interests, and researching supportive data. The skills that were least often used were "using a mentor or coach" and "developing a 'BATNA' (best alternative to a negotiated agreement), both of which were used often or always by slightly less than two-fifths of the respondents. Again, the responses of always or often were combined into a summative scale (alpha = .83, mean = 3.8, s.d. = 3.0).

Open-Ended Reports of the Impact of the Workshop

The final question on the survey was phrased as follows: "Finally, we are interested in any general impressions you may have about how your experiences with COACH have affected your career advancement, leadership and achievement style, teaching, mentoring others, or overall stress level. Please feel free to share any impressions you may have, either positive or negative." Seventy-one people responded to this question, and all of the responses are given in Appendix A. While some of the comments were more effusive in their praise than others, none were negative and virtually all indicated that the program had been helpful.

Characteristics of the Attendees

The respondents were generally established in their professional lives. Their average age was 51 (s.d. = 8.1), ranging from 34 to 76 years. Slightly more than three-fourths of the respondents were of non-Hispanic white ethnicity. The vast majority (91%) were tenured. Over three fifths (62%) held the rank of full professor, and most of the rest (30%) were at the rank of associate. Only a few were at the assistant rank or in a lecturer or other non-tenure track post. Over half of the respondents (69%) reported that they currently or previously held an administrative or leadership post. Of these respondents, over half (n=43) had been or were currently in a higher level academic position such as Department Chair, Associate Dean or Provost, or Dean. On average, they reported that there were almost 20 tenure track faculty in their departments, although some departments were much larger. The percentage of women

in the tenure-track faculty varied from 6 to 64 percent, averaging 31%.² (Summaries of the characteristics are in Table 5.)

Two sets of questions dealt with the respondents' perceptions of the gender-related climate in their institution and department. Table 6 summarizes answers to a set of questions regarding the extent to which groups with which they interacted were supportive of women. The majority of the women perceived support for women within their institution, department and community. Over two-thirds strongly agreed or agreed that top-level and departmental administration as well as departmental faculty and staff were supportive of women. Only slightly fewer, and well over half, perceived such support from graduate students and the community in which their institution was located. Responses to the items, and especially those involving the institution and department, were highly correlated. These four items were combined into an additive scale (coefficient alpha = .77 with higher values indicating a more hostile environment.).

Another set of questions asked about the extent to which males, females, or neither group received greater allocation services and rewards within their unit or department. The results are shown in Table 7. Over two-thirds of the respondents felt that men had higher salaries and over half felt that men received more institutional recognition and were taken more seriously by undergraduate students. Slightly fewer, but more than two-fifths, reported that men were taken more seriously by graduate students and had better promotion rates. While about half of the respondents indicated that allocations of space, equipment, travel funds, and research and teaching assistance were equitable, from 15 to 25 percent maintained that males received more of these rewards and very few felt that women had more of these rewards. There were two marked exceptions to this pattern: Three fifths of the respondents believed that women had heavier committee loads, and 29 percent indicated that women had heavier teaching loads. Again, responses to these items were highly correlated and were combined into an additive scale with items regarding teaching and committee responsibilities were reversed (alpha = . Coefficient alpha was .83 with a higher score indicates a perception of higher male privilege).

Understanding Variations in Responses to the Workshop

This section examines the extent to which variability in respondents' views of the workshop was related to their personal characteristics, career experiences, and the gendered climate in which they work. The dependent variables were the three scales described in the first section based on the items summarized in Tables 1-4. They measure the extent to which: 1) skills taught have helped their interactions and careers, 2) they use the specific communication skills, and 3) they use the negotiation skills. Three categories of independent variables were examined: demographic characteristics of age (measured continuously) and ethnicity (a dummy variable with non-Hispanic white coded 1), 2) Job and career-related variables of rank (a dummy variable with full professor coded 1), number of tenure track faculty in their department (measured continuously), and a dummy variable (with a code of 1 indicating that they currently or previously held a high level administrative post), and 3) the gendered climate of their workplace including the percent of women among the tenure track faculty and the two scale scores summarizing perceptions of the extent to which their work environment did not support women and and males were privileged in allocations of rewards and resources.

² We could also try to code the type of institution as in Research 1 if desired.

Table 8 displays the correlations among these variables. As could be expected the correlations among the three dependent measures were all positive and substantial, ranging from .56 to .67. As would also be expected those who had held higher administrative posts were older and more often at the rank of professor. There were also significant correlations among the measures of a gendered climate, with respondents more likely to report greater privileges accruing to men in larger departments, when there was a smaller percentage of women, and when the general work environment was seen as more hostile to women. Notably however, among the 24 possible correlations between the dependent and independent measures only one was significant at the .05 level a significance, a result that would be expected by chance. Thus, there appears to be no indication that perceptions of the workshops were related to attendees' demographic characteristics, career-related variables, or the gendered nature of their work environments.

Comparing the 2015-16 and 2007 Results

Table 9 gives descriptive statistics on all variables included in Table 8 for both the 2015-16 data set and for the 2007 respondents. Means, standard deviations, and sample size for each year are in the first columns of data. These are followed by t-tests and effect sizes. The 2015 respondents were slightly more likely ($p < .10$) to report that the skills learned had been helpful, but there were no significant differences in how often they used what they had used. The 2015 respondents were also older than those in 2007, worked in larger departments, had more women colleagues, and were somewhat ($p < .10$) less likely to report an atmosphere of male privilege and more likely to have held a high administrative post.

Table 10 reports the correlations between the three dependent measures and the independent variables. The first three columns of data give results for 2007 and the second set of columns give results for 2015-16 (repeating the data that are in the first three columns of Table 8). The results are very similar with high correlations among the three dependent measures in both years and no correlations beyond what could be expected by chance between the dependent and independent variables.

Suggestions for the Future of COACH

Toward the end of the survey the respondents were asked, "Are there ways in which COACH could assist you in the future." Sixty-nine people responded and Appendix B includes all of these comments grouped into general categories. The most common suggestion was workshops specifically aimed toward the needs of mid-career and senior women ($n=14$) followed by the need for refresher courses ($n=13$), specific types of advice and support including networking ($n=11$), and workshops focused on mentoring either for themselves or designed to learn how to help others ($n=9$). Others suggested other types of workshops ($n=6$) or simply stated that they would like to attend again ($n=6$). Two people specifically mentioned workshops for students, and eight respondents had general comments. Paralleling the results of the more general open-ended evaluative question described above, the responses indicated overwhelmingly positive views of the program.

Table 1				
<i>The Extent to Which COACH Skills Influenced Respondents' Communications and Negotiation Skills xx to xx Years After the Workshop</i>				
<u>To what Extent have the skills you learned at COACH:</u>	<u>Quite a Lot</u>	<u>A Fair Amount</u>	<u>A Little Bit</u>	<u>Not at All</u>
Improved the quality of your interactions with your colleagues	32.1	42.4	23.6	1.9
Improved the quality of your interactions with students	11.0	40.0	39.0	10.0
Improved the quality of your interactions with administrative staff	27.2	41.7	24.3	6.8
Improved the quality of your interactions with research staff	22.1	33.7	35.1	9.1
Assisted in your career advancement	31.2	47.3	18.8	2.7
Helped you feel more in control of your career	44.6	33.0	18.8	3.6
Helped you negotiate for yourself	45.3	34.0	19.8	0.9
Helped you negotiate on behalf of others	40.6	38.6	17.8	3.0
Helped you mentor others in negotiation skills	34.9	39.7	24.5	0.9
Lessened your stress about meetings or negotiations	29.7	43.3	21.6	5.4
Note: Respondents were given a "not applicable" choice and those are omitted. The number of respondents for each question varied from 101 to 112.				

<u>To what extent have the skills presented at COACH Workshops helped you in addressing issues of:</u>	<u>Quite a Lot</u>	<u>A Fair Amount</u>	<u>A Little Bit</u>	<u>Not at All</u>
Salary	19.6	31.9	21.7	26.8
Teaching load	7.2	32.5	41.0	19.3
Research support	11.6	29.1	44.2	15.1
Committee assignments	12.8	38.3	41.5	7.5
Developing supportive networks	21.6	45.1	28.4	4.9
Improving climate	17.2	45.5	30.3	7.1
Work/family balance	16.7	34.4	33.3	15.6
Tenure	23.4	31.3	29.7	15.6
Promotion	24.7	31.8	31.8	11.8

<u>Of the skills learned or reviewed in the Communication session, how often do you use:</u>	<u>Always</u>	<u>Often</u>	<u>Sometimes</u>	<u>Never</u>	<u>Don't Remember Skill</u>
Preparation (research, materials, allies)	32.4	38.2	24.5	0.0	4.9
Physical/vocal warm-up	3.9	11.8	30.4	39.2	14.7
Clarifications of purpose or objective	27.5	44.1	23.5	2.0	2.9
Position in room	22.6	42.2	21.6	5.9	7.8
Using allies/confidants	23.5	35.3	34.3	3.9	2.9
Posture alignment	17.7	37.3	30.4	6.9	7.8
Vocal presence/volume and clarity of voice	25.7	32.7	27.7	5.9	7.9
Choosing timing, tone and wording	19.8	40.6	30.7	2.0	6.9
Holding steady (breath)	12.9	25.7	34.7	12.9	13.9
Avoidance of personalizing	15.8	36.6	31.7	6.9	8.9
Understanding the other's position	24.8	52.5	18.8	1.0	3.0
Taking care of self	16.8	34.7	36.6	5.9	5.9
Setting Boundaries	14.9	36.6	37.6	2.0	8.9

Table 4					
<i>The Extent to Which Respondents Use Skills Presented in the Workshop Session on Negotiation xxx Years After the Workshop</i>					
<u>Of the skills learned or reviewed in the Negotiation session, how often do you use:</u>	<u>Always</u>	<u>Often</u>	<u>Sometimes</u>	<u>Never</u>	<u>Don't Remember Skill</u>
Identifyng and meeting mutual interests	23.8	45.7	21.9	1.0	7.6
Developing a "Best Alternative to a Negotiated Agreement"	10.6	25.0	36.5	7.7	20.2
Research supportive data	27.6	40.0	23.8	2.9	5.7
Listening and responding	28.6	49.5	16.2	1.0	4.8
Keeping negotiations open (it is a 20 act play)	22.9	30.5	25.7	1.9	19.1
Providing options for a solution	39.4	35.6	21.2	1.0	2.9
Packaging	12.6	28.2	27.2	4.9	27.2
Managing your personal style	18.3	41.4	26.0	1.9	12.5
Practing before negotiations	16.4	26.9	44.2	7.7	4.8
Using a mentor or coach	8.7	29.1	44.7	13.6	3.9

Table 5	
<i>Career- Related Characteristics of Respondents</i>	
<u>Characteristic</u>	<u>%</u>
Held Administrative/Leadership Posts	
Currently	43
In the past	26
Plan to do so in future	19
No plans to do so	12
Type of Administrative Positions Have Held	
High Academic (Dept. Head, Dean)	54
Non-Academic	3
Program Head, Major Committee Chair	43
Current Rank	
Full Professor	62
Associate Professor	30
Assistant Professor	1
Lecturer, Consultant, Other Administrative	7
Tenured	91

Table 6					
Support of Women from Institution, Department, and Community					
	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>No</u> <u>Opinion</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>
The administration at the top levels is supportive of women	16.5	50.5	15.5	14.6	2.9
The administration at the unit/department level is supportive of women	17.7	52.9	10.8	11.8	6.9
The faculty and staff within my unit/department are supportive of women	22.6	46.1	10.8	18.6	2.0
The graduate students in my unit/department are supportive of women	12.4	45.4	33.0	8.3	1.0
The community in which my institution is located is supportive of career women	12.6	43.7	21.4	21.4	1.0
The full text preceding the items was "From your observations of the institution where you work, please indicate how much you agree or disagree with the following statements regarding your institution and department"					

Table 7					
<i>Differential Allocation of Rewards by Gender</i>					
<u>In your opinion which group in your unit or department</u>	<u>Males</u>	<u>Females</u>	<u>Neither</u>	<u>Both</u>	<u>NA</u>
Has higher salaries	68.6	1.0	20.6	4.9	4.9
Gets more recognition with the institution	59.4	0.0	27.7	7.9	5.0
Appears to be taken more seriously by undergraduate students within the department	53.5	1.0	19.2	18.2	8.1
Appears to be taken more seriously by graduate students within the department	45.5	0.0	17.2	12.1	25.3
Has better promotion rates	40.6	2.0	34.7	17.8	5.0
Finds it easier to receive secretarial assistance	30.0	6.0	43.0	12.0	9.0
Has more or better space allocated	26.7	0.0	54.5	12.9	5.9
Has greater equipment allocations	21.8	1.0	54.5	11.9	10.9
Has more hours of research assistance	20.8	0.0	51.5	9.9	17.8
Has more hours of teaching assistance	18.0	3.0	52.0	11.0	16.0
Gets more funding for travel	15.0	1.0	56.0	14.0	14.0
Has heavier committee loads	3.0	60.4	22.8	9.9	4.0
Has heavier teaching loads	1.0	29.4	50.0	13.7	5.9

Note: The question was preceded by this text: "The following are areas in which women and men may receive different professional rewards. Please complete the following sentences to describe the gender differences - or lack of differences - you have observed in your own unit or department. These items do not suggest that differences are due completely, or even partly, to gender. Differences may be due to a variety of factors including rank, seniority and productivity, among others." Items are ordered from those most often to least often marked "male"