

A Report on the American Chemical Society's
Mature Career Chemists Study

Lifetimes in Chemistry

A Study of Members Ages 50 to 69

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Acknowledgments

This report presents detailed results of the 1999 Mature Career Chemist Study. The ACS Council Committee on Economic and Professional Affairs and its Subcommittee on Surveys, chaired by Jim Long, planned and provided oversight to the project. Janice Farkas, Assistant Professor of Sociology, Pennsylvania State University at Delaware County, served as adviser to the project and wrote this report. The study was conducted and analyzed by the efforts of many in the Department of Career Services. Mary Jordan, Senior Research Analyst, conducted the survey and analyzed the data. This publication was reviewed by Bruce Millar, Senior Staff Associate, and Robert Rich, Manager of Professional Services. Special thanks go to interns Meghann McLouth and Gary Quiming and Program Assistant Kemie Smith.

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Introduction

CHEMISTS, WHO ENCOUNTER A VARIETY of challenges during their careers, may be facing their greatest challenges as they approach retirement age. Downsizing, mergers and restructuring began in the 1980s and continue through the 1990s and into the new century. These trends have forced some experienced older chemists into early retirement, career changes and/or bridge jobs before becoming eligible for retirement benefits. Ageism, or discrimination against employees due to age, is a potential concern for the mature chemist at a time of continued industry restructuring and divestitures.

At additional risk of ageism may be the female chemist that took a hiatus to meet family obligations and is now approaching the end of her working career. She may need additional work years to qualify for pension and other bene-

fits for retirement. Thus, for some older career chemists, their maturing and retirement years may have become a time of unplanned transitions instead of a peaceful and comfortable transition to retirement.

To provide a deeper understanding of the transitions and the current state of the maturing career chemist, the American Chemical Society (ACS) surveyed members ages 50 to 69 in the fall of 1999. Among the questions included were those covering the members' employment history, education, retirement preparation and retirement pension participation.

Major Findings of this Report

MORE THAN TWO-THIRDS OF RESPONDENTS ages 50 to 69 are employed full-time. Of the twenty percent of those who were “not currently employed and not seeking employment,” 85% consider themselves retired.

As expected, full-time employment decreases with age while those who reported they were retired increases with age to 62% for those ages 65 to 69. But a higher proportion of women ages 60 to 69 were working full-time and not retired than were men of the same age.

Respondents who are still active in the labor market at the oldest ages are those with Ph.D.s.

Nonworking respondents stated retirement as the principal reason for not working. Women, however, also reported that family obligations forced them to be not employed. The majority of those who were retired did so voluntarily and found retirement a positive experience. The 30% who felt pushed into retirement were more likely to report dissatisfaction with their retirement and pension.

Respondents who said they retired too early said they felt forced into retirement. They said they missed their co-workers and the challenge of work and were concerned about finances.

About 98% of employers provide at least one pension plan option to their employees. Nearly three-quarters of the plans are either 1) a defined contribution or 2) a benefit plan where the financial responsibility is shared between the employer and the employee.

Nearly half the respondents expected to receive 50% or more of their final gross salary upon retirement as pension income, but many were unclear about their future pension income. Women expected, on average, to receive a lower percentage of their final gross salary from pension income than did men. Nearly 30% of all women and 17% of men don't know their future pension income.

Employers make medical care available to nearly three-quarters of all respondents and their spouses after retirement, but few employers provide long-term care insurance. Most employers expected the employee to shoulder a portion of the medical insurance premium after retirement.

About half of the respondents' employers provided a pre-retirement program featuring topics such as pensions, Social Security, managing money for retirement and the nature of retirement. However, only 60% of employees with pro-

grams available had taken advantage of the pre-retirement programs.

Consultants were more likely to be male and older. About 10% of those who said they were retired were consultants. Only about 7% of all consultants worked full-time. Consultants in the manufacturing sector had the highest median consulting income.

Women in the sample were less likely to have been married, divorced or have children than were the men. The majority of married men, or 73%, had married a nonscientist, but only one-fourth of women married a nonscientist. Nearly 90% of the men reported they had at least one

child but only 60% of the women said they had had a child.

Nearly three times as many women as men took a career hiatus of at least six months and for different reasons. Women most often reported the hiatus was for "family responsibilities," while men said they were "involuntarily terminated." Women also said that the hiatus hurt their career while most men said it helped their career.

Recommendations

MORE RESEARCH SHOULD BE CONDUCTED to determine if the higher labor force participation of the older professional women is due to lower anticipated pension coverage, less pension coverage or lower anticipated pension income.

Employers without pre-retirement planning programs should be encouraged to incorporate such programs into their workplace.

Employees should be encouraged to participate actively in pre-retirement programs.

Older chemists should be made aware of their pension coverage and future pension income to successfully plan for their retirement.

The influence of family responsibilities on careers of professional women in the chemical industry should be explored to determine if they continue through the retirement process.

Those currently consulting or considering consulting should be encouraged to explore various topics related to this option so that they are fully informed.

The Study

Objectives

The survey focused on understanding the maturing career chemist's current professional employment status, transitions into retirement and retirement well-being. Particular attention to later-life transitions into bridge employment, such as consulting and part-time employment, also was addressed. Events that typically occur earlier in life also were assessed since all may influence the chemist's financial and emotional well-being at older ages.

Specifically, the survey addressed the following key areas:

- Current employment status
- Employment characteristics
- Career transitions
- Professional involvement
- Demographic information

Methodology

The study was designed to capture middle-aged and older career chemists. Thus, members ages 50 to 69 were surveyed. These ACS members include members of two distinctive American birth cohorts. Those at the youngest age interval were the first Baby Boomers, ages 50 to 54, who symbolize the high-fertility characteristic of good economic times.

Conversely, those in the oldest age interval were part of the Depression's low-fertility cohorts or characteristic of poor economic periods. Consequently, upon entering their careers, the smaller Depression cohort competed for positions during profitable economic times marked with more career opportunities and advantages than did the later Baby Boom cohort. Currently, in the later portion of their careers, cohort mem-

bership continues to influence retirement well-being and outcomes with the smaller, older cohorts retiring with Social Security benefits and employer pension plans paid more by the employer than the employee. The younger cohort will retire with more uncertainty about Social Security benefits, qualify for full Social Security benefits at an older age and have borne a greater proportion of funding for their retirement.

The survey, initiated and guided by the ACS Committee on Economic & Professional Affairs (CEPA), was administered to a random sample of current regular American Chemical Society members, including retired, ages 50 to 69, in March 1999. The sample was stratified to represent the members' educational attainment, sex and age. The survey included an over-sampling of females to ensure that they were represented; however, the final results were weighted to correspond to females' ACS membership.

In all, 5,017 ACS members were statistically sampled with an initial return rate of 48%. In April and June, follow-ups of a second and third questionnaire were sent to those who did not respond. In 40 cases, nonresponse was due to mortality or incorrect addresses. An additional 22 surveys were unusable. In all, 2,800 questionnaires were returned for a 57% return rate.

Characteristics

Age Distribution

Over 37,000 ACS members were between the ages of 50 and 69. The distribution of all full ACS members by age is shown in Figure 1. As seen in the figure, nearly 40% of all full ACS members were 51 and older, representing a sizable portion of the membership. Not surprisingly for the mature chemist population, the oldest members were the smallest cohort. Of the ACS members ages 50 to 69, only 12.6% were females.

Women in the Study

Women comprise less than 13% of the ACS membership between ages 50 and 69, as shown in Figure 2. As expected, younger women held a larger share of the membership than older women. Over 18% of all ACS members ages 50 to 54 were women. Less than 7% of chemists ages 65 to 69 were women. The increased representation of women at younger ages reflects both their higher educational attainment and

attrition of older women leaving the chemical field and beginning retirement, combined with the historic male domination of the field.

Educational Distribution

As shown in Table 1, Sixty-three percent of mature chemists reported that they had a doctorate, with the remainder of chemists evenly split between those with a bachelor's and a master's degree reported as their highest degree received. They were more likely to have a Ph.D. and be male, regardless of age. Less than 10% of the total Ph.D. chemists were women. Women were twice as likely to have ended their education with a master's degree than were men. Women were also more apt to only complete a bachelor's degree. Older women respondents were as likely to have a Ph.D. as were younger women—only about 43% of female respondents had Ph.D.s compared to 66% of men. Twenty-five percent of the mature women chemists hold a bachelor's

FIGURE 1: ACS Current Population

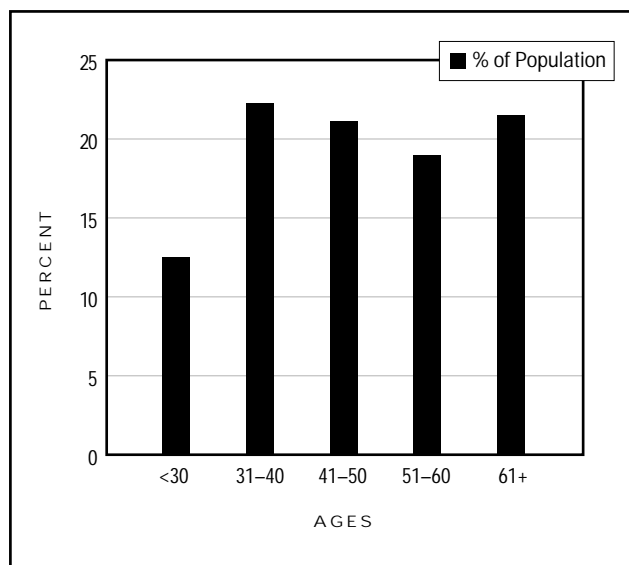
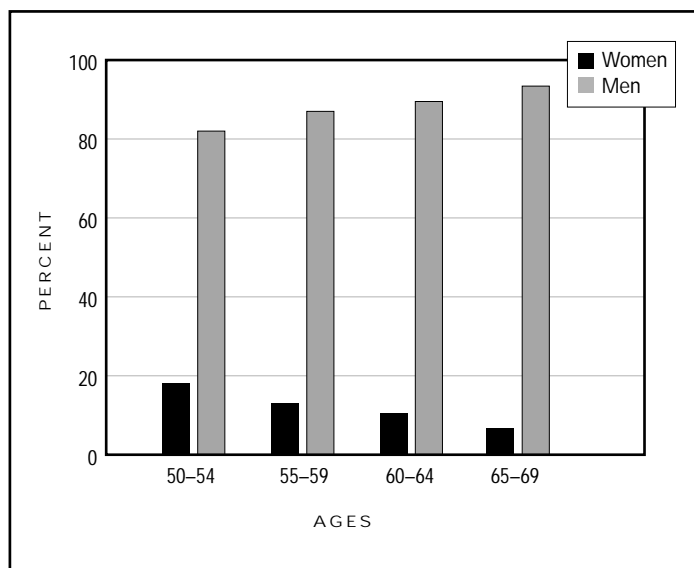


FIGURE 2: ACS Membership for Age Cohorts by Sex



degree, while only 18% of men do, and about 32% of women report a master's as their highest degree. This outcome is likely a result of women's lower educational attainment that coincides with familial obligations with little differentiation by age. Consequently, the more highly educated and, therefore, higher paid chemists were men.

TABLE 1: Highest Degree Received by Age and Sex for MCC Population (in %)

		MCC POP.	DEGREE		
			BA	MA	PhD
TOTAL	ALL		18.4%	18.6%	62.3%
	MEN		17.5	16.7	65.8
	WOMEN		25.0	31.8	43.2
MEN	50-54		14.7%	19.4%	65.9%
	55-59		15.3	15.7	68.9
	60-64		18.9	17.4	63.6
	65-69		22.5	13.9	63.6
WOMEN	50-54		24.8%	33.8%	41.5%
	55-59		26.9	30.4	42.7
	60-64		22.4	30.0	47.6
	65-69		25.3	32.6	42.1

May not equal 100.0% due to rounding

Employment

Employment Status

A significant number of all responding members reported they were currently employed full-time. Table 2 shows the distribution of employment status for all members, by age and sex distributions. More than two-thirds of all respondents were employed full-time. Considering the age of the study population, it is not unexpected that 20% of mature chemists reported they were not currently employed and not seeking future employment. Unemployment for the group was rare, with less than 2% saying they were unemployed and seeking employment. Interestingly, over 8% of all respondents said they were fully self-employed. However, these findings diverge with age.

TABLE 2: Current Employment Status for MCC, Total and by Age (in %)

MCC POP.	EMPLOYMENT STATUS				
	FULL-TIME	PART-TIME	SELF-EMPLOYED	SEEKING	NOT SEEKING
TOTAL	64.9%	4.4%	8.3%	2.1%	20.3%
50-54	90.4%	2.1%	3.1%	1.9%	2.6%
55-59	81.5	2.0	4.6	3.0	8.9
60-64	51.6	6.6	11.0	2.4	28.3
65-69	18.1	8.9	18.5	<1.0	54.1

May not equal 100.0% due to rounding

Employment Status and Age

Not surprisingly, results in Table 2 clearly demonstrate trends that are found in all employment sectors. This trend of declining labor force participation with increasing age is concurrent with growth in the proportion of those not employed and not seeking employment. In this survey, the results show that full-time employment starts to decline for the maturing career chemist from nearly 90% of all respondents between ages 50 and 54 to about half for those who were in their early 60s.

This trend is most apparent when examining full-time employment of all respondents. Full-time employment declines for each cohort with the lowest participation rate in the oldest cohort (see also Table 2). After age 65, less than 20% of chemists said they were employed full-time. The reduction in full-time employment with increasing age is partially offset by self-employment and part-time employment. Respondents reporting self-employment as their current status increased from 3.1% at ages 50 to 54 to 18.5% for those ages 65 to 69, or a sizable jump of 15%. Between the 50 to 54 and 65 to 69 age groups, part-time employment followed a similar pattern, or climbed about 7%.

Predictably, respondents not employed and not seeking employment increased with age from less than 3% at ages 50 to 54 to more than half of those ages 65 to 69, clearly following the natural progression of retirement observed in other occupational sectors.

TABLE 3: Employment Status of MCC Respondents by Sex and Age (in %)

		EMPLOYMENT STATUS				
		FULL-TIME	PART-TIME	SELF-EMPLOYED	SEEKING	NOT SEEKING
TOTAL	MEN	64.1%	4.3%	8.8%	2.0%	20.7%
	WOMEN	69.7	6.3	4.8	2.5	16.7
MEN	50-54	91.8%	1.6%	3.1%	1.5%	2.0%
	55-59	82.5	1.5	4.6	3.1	8.3
	60-64	51.2	6.5	11.5	2.4	28.5
	65-69	17.4	8.7	19.3	>1	54.1
WOMEN	50-54	84.1%	4.1%	3.1%	3.6%	5.1%
	55-59	74.6	5.9	4.5	2.2	12.7
	60-64	55.3	8.0	7.3	2.2	27.1
	65-69	27.7	11.9	7.0	0.0	53.5

May not equal 100.0% due to rounding

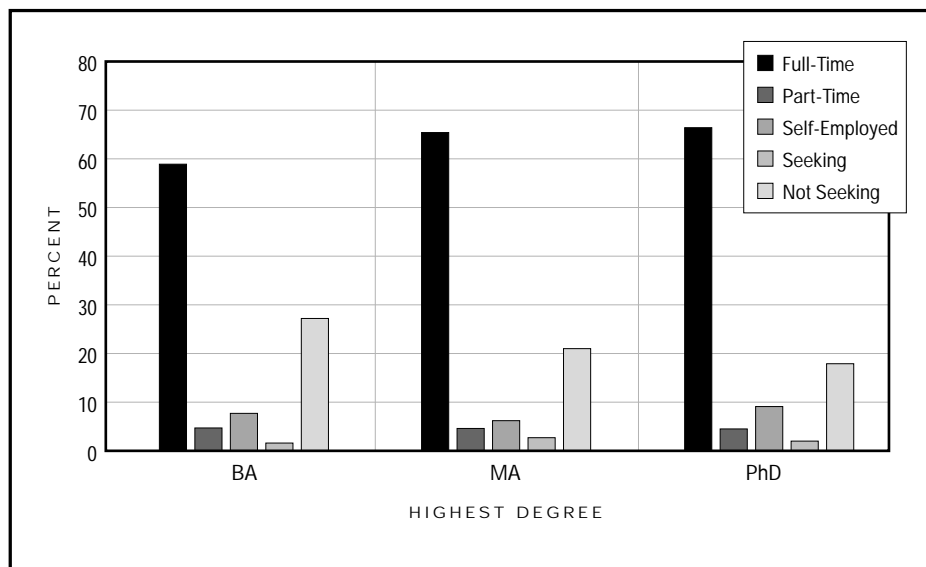
Employment Status Differences for Men and Women Chemists

Table 3 clearly demonstrates differences between men and women respondents' labor force behavior. Differences in employment status by sex were apparent for full-time employment, becoming increasingly distinct at older ages. The higher rate of female labor force participation for the total sample may result from the women in the sample being slightly younger, with a median age of 56 compared to 59 for the men. However, a closer examination of the data reveals that this results from women of the oldest age (65 to 69) cohorts' labor force participation.

Full-time employment decreases with age for both men and women. Until they reach their 60s, male chemists were more likely to be employed full-time at all ages than were women chemists. However, this changes for women at older ages. Men and women respondents, ages 60 to 64, were about equally as likely to be

employed full-time, with women having a slight edge on the men. For those in the oldest cohort, women were twice as likely to be employed full-time or part-time than were men. This may be a response to an earlier hiatus necessitating women's continued employment at the oldest ages to meet pension eligibility requirements.

FIGURE 3: Employment Status by Highest Degree Received



Additional differences in men and women's labor force participation were observed by age cohorts (see Table 3). The most notable additional differences include "not currently employed and not seeking" and "self-employment." Women "not currently employed and not seeking" shift from having a greater share than men in the youngest cohort to men in the oldest cohort reporting "not currently employed and not seeking" status about equal with women at about half the population, ages 65 to 69. In addition, men were two to three times more likely than women to be self-employed at ages 60 to 64 and 65 to 69. These findings continue to corroborate the hypothesis that women's earlier family responsibilities play a role in women's longer labor force participation. When women forego time in the labor force to meet family needs, they must remain in the labor force longer than men to qualify for time-dependent pensions and other retirement benefits.

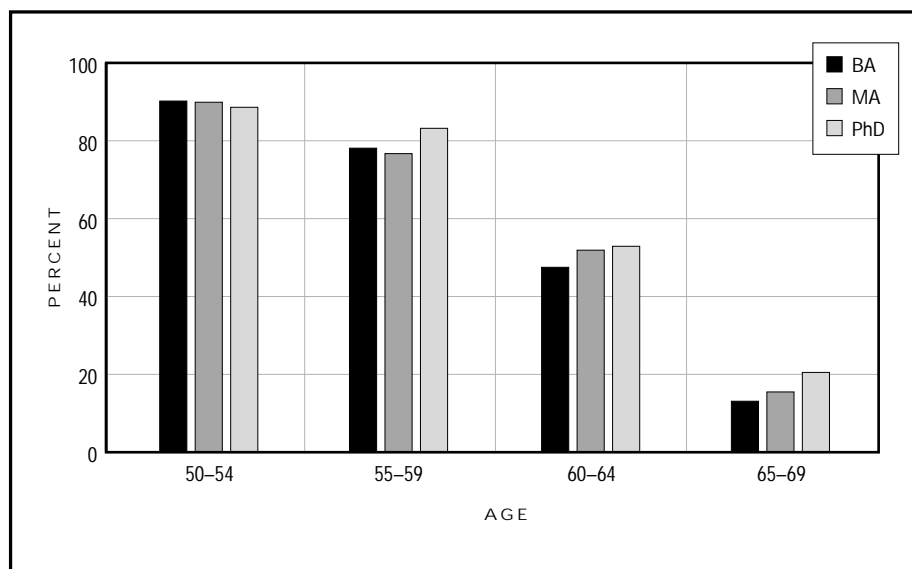
Over half of the respondents were working in full-time positions regardless of highest

degree received, but job status of the group varied by highest degree received (see Figure 3). Those whose highest degree received is a bachelor's degree were more than 7% more apt to be "currently not employed and not seeking" than respondents with higher degrees. Conversely, respondents with higher degrees were more likely to be employed full-time.

Education and Labor Force Attachment Are Strongly Correlated

Some say, "Old chemists never leave the labor market!" This trend was observed in full-time employment where a propensity to continue work for highly educated chemists was observed at older ages (see Figure 4). At younger ages, regardless of degree, about 90% of all chemists were employed full-time; but at older ages, Ph.D.s were more likely to remain in the labor force full-time by over 7% and 5% compared to those with bachelor's and master's degrees, respectively. Further analysis of older men and

FIGURE 4: Full-Time Employment Status by Age & Highest Degree



women chemists revealed that 40% of women chemists ages 65 to 69 continued to work full-time compared to 20% of men at similar ages.

Labor force attachment was strong for highly educated chemists—especially for women. In the study, women Ph.D.s were about 10% more apt to be working full-time than were men Ph.D.s and less likely to be out of the labor force by 6% (see Table 4). Women’s larger share of part-time employment than men’s was conceivably the result of earlier familial responsibilities. Regular ACS survey results have shown that women tend to use the option of part-time employment to meet family obligations. However, men and women Ph.D.s have similar low part-time labor force participation.

Regardless of degree attainment, a higher proportion of men were self-employed compared to women. Additional analysis found that for the majority of respondents, self-employment was as a consultant. In addition, this survey

revealed that presently, consulting as a self-employment status was more common for men, those with a Ph.D. and academics.

Employment by Sector

Overall, the respondents had a median of two employers and the vast majority (75%) had no change in employment between sectors. However, women were more apt to change employment sectors than men, 34% to 24% respectively. Nearly half of all mature career chemists were employed, or were last employed, in manufacturing. Another quarter of the respondents were located in universities and college settings (see Table 5). Yet again, sex differences in the chemical industry emerged, with half of all male chemists but only a third of women chemists employed in the more lucrative manufacturing sector. Women were slightly more likely to be employed in the government sector, a sector with less of a wage disparity, or involved in other less lucrative sectors such as high school education. Over half of unemployed men and nearly 40% of unemployed women who were cur-

TABLE 4: Employment Status by Highest Degree Received, by Sex (in %)

		EMPLOYMENT STATUS				
		FULL-TIME	PART-TIME	SELF-EMPLOYED	SEEKING	NOT SEEKING
BA	MEN	56.8%	4.4%	8.5%	1.5%	28.8%
	WOMEN	69.3	6.1	3.6	1.9	19.1
MA	MEN	66.0%	3.7%	6.8%	2.6%	21%
	WOMEN	63.8	7.8	3.9	3.4	21.2
PhD	MEN	65.7%	4.4%	9.4%	2.0%	18.5%
	WOMEN	74.2	5.4	6.1	2.2	12

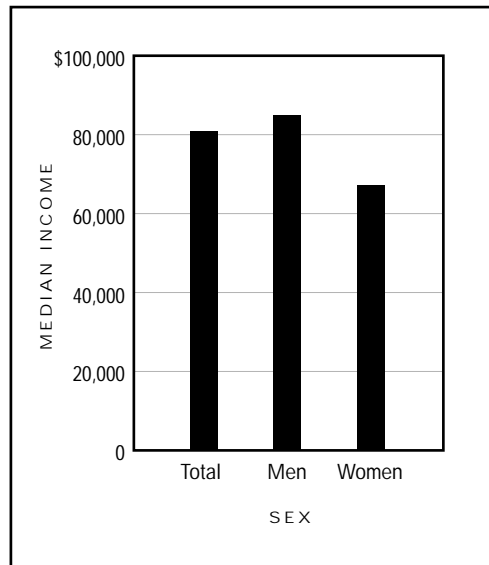
May not equal 100.0% due to rounding

TABLE 5: Current or Last Employment by Sector for MCC, by Sex (in %)

		EMPLOYMENT STATUS						
		NON-MANF	MANF	GOV	COLL/JUNIV	HIGH SCHOOL	SEL	OTHER
TOTAL		7.8%	47.4%	10.6%	26.9%	1.8%	2.8%	2.1%
MEN		7.5%	49.4%	10.3%	26.9%	1.3%	2.8%	1.8%
WOMEN		10.6	36.0	12.7	28.5	5.1	2.8	4.2

May not equal 100.0% due to rounding

FIGURE 5: Median Earnings for All MCC in Full-Time Employment by Sex



rently seeking employment were previously employed in manufacturing. The respondents were overwhelmingly employed in firms that employ more than 500 employees, a finding that does not fluctuate by age or sex.

Salaries

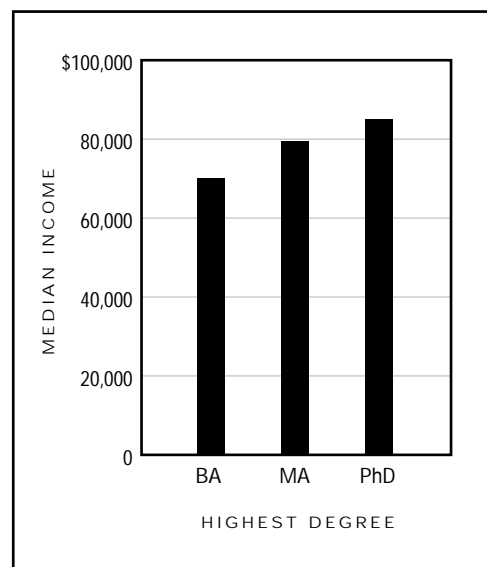
A career in chemistry continues to be a financially rewarding field, the reported median salary as of March 1999 for all full-time employed chemists was \$80,888. This figure did not include bonuses, earnings from a second employer, overtime work, summer teaching or other supplemental earnings. Sex differences in salaries are obvious and shown in Figure 5. Men employed full-time in the survey reported a total income for the prior year of \$85,000, while women employed full-time reported median earnings of \$67,300. Women's earnings were only 81% of what men earned, thus the chemical profession replicates

the income earnings disparity between men and women's salaries observed in general for the United States. In further analysis, this disparity was observed in all chemical employment sectors; however, the highly regulated governmental sector showed the least income inequality for men and women. The overall disparity is also affected by the age differences and employment sector differences between men and women.

The majority of chemists who were employed in the industrial sector also had the highest median base salary in 1999 of \$100,000. Self-employment also was a profitable option when it was full-time. However, less than 1% of full-time employed chemists follow this route.

As expected and as shown in Figure 6, the median 1999 reported salary increased for respondents by advanced degree. Those with a bachelor's degree earned about \$15,000 less than

FIGURE 6: Median Earnings for All MCC in Full-Time Employment by Highest Degree

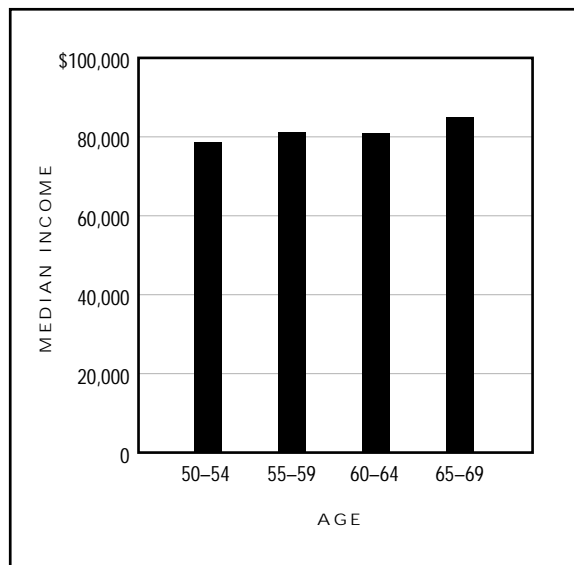


did those with a doctorate. Again, the disparity between men and women's salaries is apparent with the gap increasing at higher educational levels. However, this information masks an even greater salary inequity, salary ceilings. Women's highest professional income reported was \$225,000, while men's reported salary totaled, in some cases, more than \$1,000,000. Thus, women not only earned less, they were constrained by a lower earning potential. Another finding was that, on average, median salary increases by educational attainment, while those with the highest earnings reported by both men and women hold a bachelor's or master's degree.

Salaries and Age

As shown in Figure 7, Salaries, reported as of March 1999, continued to rise with age. The average median salary increased by about \$6,200 between ages 50 and 69. Unexpectedly, a peak in salaries at formal retirement age was not observed. One could speculate that professionals would seek to maximize salary income before retirement so as to increase Social Security and pension returns. Penalties on personal income after age 65 reduce the incentive to work, thus explaining the slight decrease normally observed in older persons' personal income. However, the negative incentive for the older full-time employed chemists is negligible, given that median salary continued to rise a full \$4,500 per year after age 64. Women's salary fluctuated less by age and began declining in the early 60s.

FIGURE 7: Median Earnings for MCC in Full-Time Employment by Age Cohort



Moving into Retirement

"RETIREMENT" IS THE CENTRAL REASON provided for not working. Having begun retirement was specified by 21% of all respondents for not working and was the principal reason by an overwhelming 86% for giving their status as "currently not employed and not seeking" (see Table 6). Reasons less frequently provided for those "currently not employed and not seeking" were "do not want to work any more," "incentive not sufficient" and "terminated." Clearly, the transition to retirement has different meanings and implications for each individual.

Retirement and Age

Age is a social and structural factor in retirement. Retirement prior to age 55 is an unusual process that often produces negative financial and emotional consequences. The majority of pensions and retirement benefit packages are linked to age and job tenure. Social Security,

while not means-tested, has both work and age requirements. Thus, it is not surprising that those at younger ages were less apt to be fully retired.

Table 7 provides the percentage of all respondents who identified that they were retired, by age. While just over 30% of the respondents ages 60 to 64 reported they were retired, nearly 60% of chemists ages 65 to 69 said they were retired. Men ages 60 and over were slightly more likely to be retired than were women, a difference of about 5%. A few fully retired respondents, 10.5%, reported consulting hours. Thus, retirement has multiple meanings to all concerned.

Retirement Experience Differs for Men and Women

Retirement was the primary motivation for both men and women to be not currently working. Still, while nearly all men gave retire-

TABLE 6: All MCC Who Are Not Employed and Who Are Currently Not Seeking Employment: All Reasons Not Seeking Employment (in %)

	POPULATION		
	TOTAL	MEN	WOMEN
RETIRED	85.8%	87.1%	71.1%
DON'T WANT TO WORK	15.4	15.4	17.3
INCENTIVE NOT SUFFICIENT	10.5	10.6	9.6
TERMINATED	10.4	9.9	14.9
HEALTH REASONS	4.0	3.4	9.3
FAMILY RESPONSIBILITIES	3.3	2.3	11.7
NO JOB OPPORTUNITIES	2.3	1.9	5.6
OTHER REASONS	7.3	6.6	13.1

May not equal 100.0% due to rounding

TABLE 7: Retired Status of MCC Population by Age and Sex (in%)

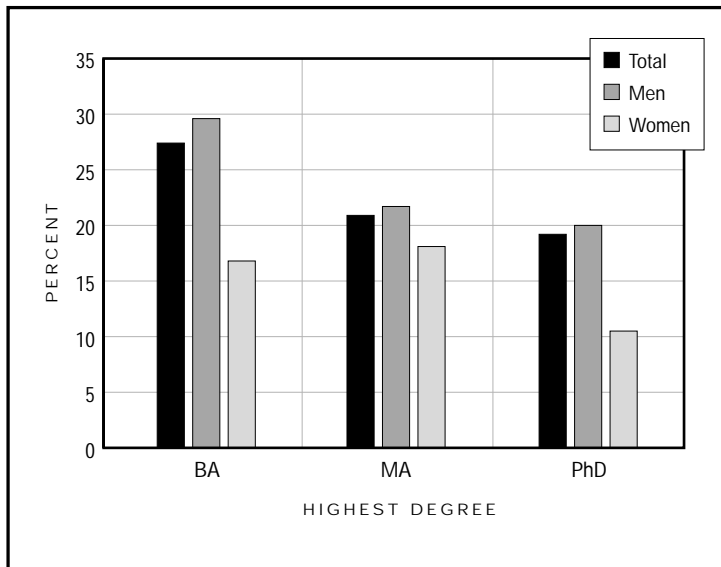
AGE	POPULATION		
	TOTAL	MEN	WOMEN
50-54	1.3%	1.1%	2.1%
55-59	7.9	7.6	10.0
60-64	30.8	31.4	25.7
65-69	58.8	59.1	54.9

As % of Total MCC Population in Age Cohort

ment as a reason for not working, less than three-quarters of women said retirement was their reason for not working or an incentive not sufficient to continue working (see Table 6). Both men and women similarly reported “not wishing to work” as a reason for not working, but “family responsibilities” were more often the reason for women not working than for men. A greater percentage of women also indicated that they felt they were no longer working due to termination, other reasons and health.

Retirement Varies by Education
Those beginning retirement varied by education and sex. Retirement was observed to decrease as education increased by all respondents. Sex differences in retirement were also observed. Men whose highest degree was a bachelor’s or doctorate degree were twice as likely to retire compared to women with the same degree (see Figure 8).

FIGURE 8: MCC Retirement Status by Highest Degree & Sex



Pensions as a Transition

Voluntary Pension Receipt

Pension benefits reduce the financial risk of retirement. In the study, pensions were currently received by 33% of chemists ages 50 and over. Of those currently receiving a pension, voluntary retirement was the normative pattern for nearly 70% receiving their pension. No significant difference in voluntary retirement was observed by sex.

Current pension receipt varied by age, sex and industry with pension receipt increasing as age increases. At the older ages, 65 to 69, almost 80% of chemists received a pension, a jump from 46% for ages 60 to 64. However, pension receipt varied by sex, with less than 60% of older women having pension coverage at ages 65 to 69, while over 80% of such men were currently receiving a pension. Lack of pension receipt may be a contributing factor in the increased labor force participation of older women compared to men ages 65 to 69, 17% and 28%, respectively.

TABLE 8: Current Pension Recipients for all MCC Population by Sex and Age (in%)

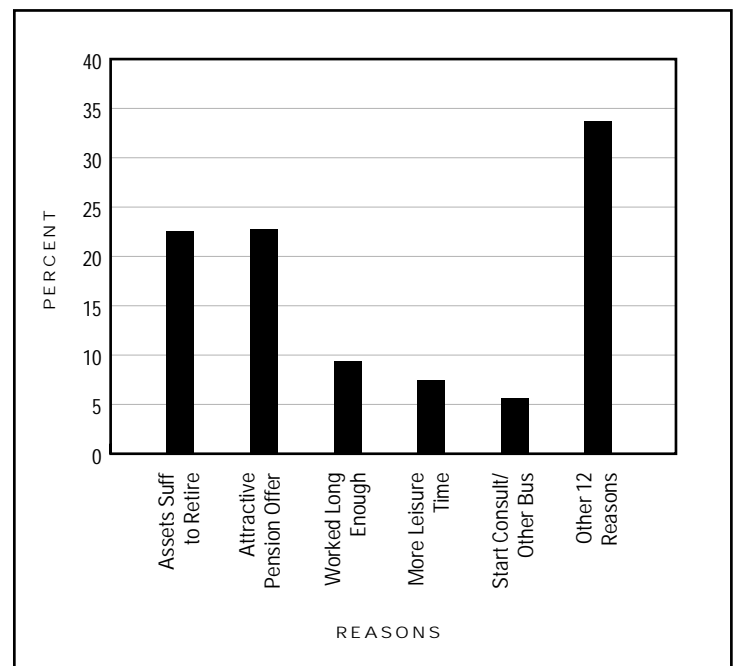
AGE	POPULATION		
	TOTAL	MEN	WOMEN
50-54	4.6%	5.0%	2.8%
55-59	18.0	18.4	15.4
60-64	46.1	47.3	35.8
65-69	79.8	81.3	58.6

Few respondents with pension coverage were actively seeking employment (less than 3%), but 15% of respondents currently receiving pension income were working full-time. Pension receipt provides a financial cushion for some. Lack of an adequate coverage for others may be a causal factor in self-employment and part-time employment. Eleven percent of respondents with current pension coverage worked part-time, while another 19% of respondents were self-employed.

Financial Considerations of Pension Receipt

Financial considerations were most important for those currently receiving a pension. The most important reason for initiating a request for pension was “an attractive pension

FIGURE 9: MCC Currently Receiving Pensions: Most Important Reason for Initiating Pension



offer” or “assets sufficient for retirement” (see Figure 9). Other primary reasons with substantial responses accounting for an additional 22% included “worked long enough,” a “desire for more leisure time,” or to “start consulting or other business.” Additionally and far less often, 34% of the pension recipients marked another of the 17 options given for pension receipt. (See Questionnaire – Appendix A).

Motivating Reasons for Pension Receipt

The reasons provided for initiating pension receipt vary by age. Few chemists, ages

50 to 54, initiated pensions, less than 3% of all who initiated retirement. However, these younger chemists reported “an attractive pension offer” as their most important consideration for retirement followed by “moving to consulting work or starting their own business.” Nearly 30% of those ages 55 to 64 gave “assets sufficient” as their most important reason for initiating retirement, while those over age 65 were as likely to say an “attractive pension offer” was proposed or “assets sufficient to retire.” Hence, the reasons provided for initiating pension receipt vary by age.

TABLE 9: Nonvoluntary Retirement Different Experience for MCC

		RETIREMENT		
		DOWNSIZING	AGE DISCRIMINATION	OTHER
DEGREE	ALL	77.1%	4.0%	18.8%
	BA	80.6%	5.50%	14.0%
	MA	70.3	7.0	22.7
SEX	PhD	78.2	2.1	19.6
	MEN	77.2%	4.4%	18.6%
AGE	WOMEN	78.9	2.1	19.0
	50-54	89.4%	0.0%	10.6%
	55-59	76.9	2.6	20.6
	60-64	79.7	6.4	13.9
	65-69	73.1	3.5	23.4
EMPLOYER	INDUSTRY	79.5%	4.6%	15.9%
	GOVERNMENT	73.5	0.0	26.5
	ACADEMIA	33.8	3.7	62.5

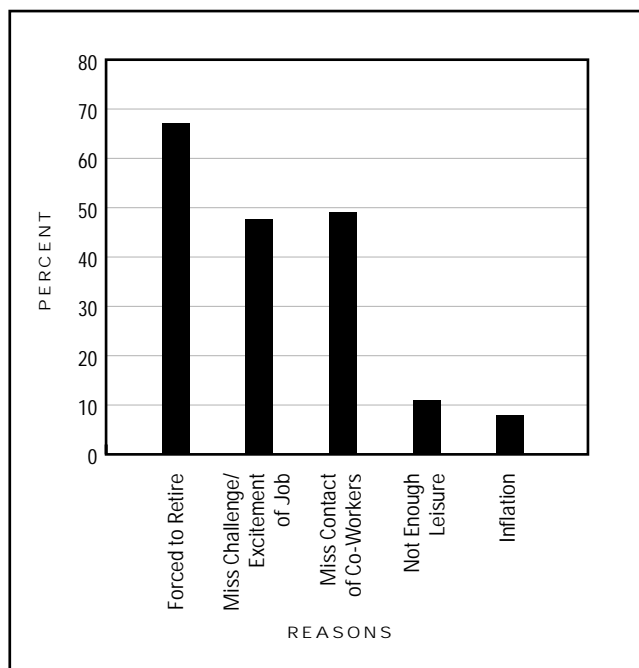
Nonvoluntary Pension Receipt

Compulsory pension receipt varied both for men and women by age. Nearly 30% of the respondents receiving a pension did not do so voluntarily. Their retirement process differs substantially from those who initiated retirement. The overwhelming primary reason given by 77% of respondents for nonvoluntary retirement was “downsizing,” but this decreases by age. “Downsizing” was the response provided by nearly 90% of respondents ages 50 to 54, decreasing to 73% for the oldest cohort. Among chemists 65 to 69, 25% were more likely to give “other” as their reason for nonvoluntary retirement compared to other age cohorts. Although “downsizing” was the primary response for nonvoluntary retirement, closer inspection found that 20% of women ages 50 to 54 also attributed nonvoluntary retirement to “age discrimination,” with no women, ages 65 to 69, ascribing their retirement to “age discrimination.” Men, on the other hand, at the oldest age cohort reported “other” factors twice as often as women did, 25.4% and 12.3%, respectively. Thus, the nonvoluntary pension receipt experience varied both for men and women and by age.

TABLE 10: Those Initiating Pension are More Likely to Judge it as Adequate

	INITIATED PENSION			DID NOT INITIATE PENSION			
	MORE THAN ADEQUATE	ADEQUATE	LESS THAN ADEQUATE	MORE THAN ADEQUATE	ADEQUATE	LESS THAN ADEQUATE	
ALL	15.6%	66.1%	18.3%	6.8%	44.8%	48.3%	
DEGREE	BA	9.6%	71.8%	18.6%	3.7%	47.9%	48.3%
	MA	14.5	60.1	25.5	4.2	39.9	56.0
	PhD	17.6	66.2	16.2	9.4	45.2	45.4
SEX	MEN	15.9%	66.5%	17.6%	7.2%	44.6%	48.2%
	WOMEN	11.9	61.2	26.8	1.6	48.2	50.2
AGE	50-54	36.2%	45.1%	18.6%	30.9%	41.2%	27.8%
	55-59	5.9	69.9	24.2	2.3	45.9	51.9
	60-64	14.5	65.9	19.6	9.1	47.9	43.0
	65-69	18.8	66.1	15.1	3.4	41.3	55.3

FIGURE 10: Reasons Given for Feeling Retirement was "Too Soon"



Self-Reported Adequacy of Pension

Being forced into compulsory retirement reduced the average satisfaction of the retirement experience compared with those who initiated their retirement. For those who initiated retirement, 82% felt their pension was at least adequate. But only half of those who did not initiate retirement said their pension was adequate. A greater proportion of the older-aged cohort ages 65 to 69 who did not initiate retirement reported their pension to be less than adequate than did the younger cohort. Nearly one-quarter of women who initiated retirement felt their pension was less than adequate while less than 20% of men did so. On the other hand, more than 15% of all those who initiated retirement reported their pension to be more than adequate.

Timing of Retirement

About 82% of all retired respondents said they retired at the right time with only 16% saying it was too soon. Less than 1% said they retired too late.

Satisfaction of Retirement by Those Receiving Pensions

Overall, preparation and initiating retirement led to higher retirement satisfaction; those who retired earlier may not have prepared themselves adequately. On the other hand, initiating retirement influenced one's satisfaction of the retirement process. Few of those who initiated retirement said they had retired "too late" or "too soon," less than 17% (see Table 10). When those who felt their retirement was "too soon" were asked to indicate all the reasons why they felt this, the primary reason given by 67.2% was "forced to retire." Additional reasons included "missing contact with co-workers" and "missing

the challenge and excitement of work” by half of those who felt they retired too early.

For those who initiated pension receipt, over 90% of men felt the timing of their retirement was at the “right time,” but only 80% of women reported their timing to be the “right time,” with a higher proportion of women suggesting their retirement was “too soon.” This may be tied to women’s retirement timing coinciding with their older husbands’ retirement and not necessarily their own career paths. The primary explanations given by those for whom retirement was “too soon” was that they felt forced to retire and that they miss the challenge of work and contact with their co-workers. Inflation eroding the value of their income was also a primary consideration.

The overwhelming majority of retired respondents were at least satisfied with their retirement—and most were very satisfied. This finding differs little by sex, education or industry. Nevertheless, those who did not initiate retirement were less likely to be very satisfied, and almost 20% report dissatisfaction with their retirement. Women and those in the cohort ages 50 to 54 who did not initiate their pension have a higher percentage in the very dissatisfied category. Thus for all chemists, planning and initiating pension receipt increases pension adequacy and satisfaction.

Pension Coverage and Plans of the Mature Chemists

Ninety-eight percent of the respondents had at least one type of pension plan available. Table 11 provides information on the most important pension plan identified by the respondent. The most important plan available to two-thirds of all respondents was employer-based pension plans—either a

defined contribution or benefit package. This included TIAA-CREF and federal or state employer pension plans. Salary reduction plans for profit-seeking organizations, such as 401(k) plans, were the most important plan for 20% of all chemists, ages 50 to 69. A few chemists, 5%, stated that employee stock ownership, profit sharing or other plans were their most important retirement plan available. Pension plans were offered equally to men and women.

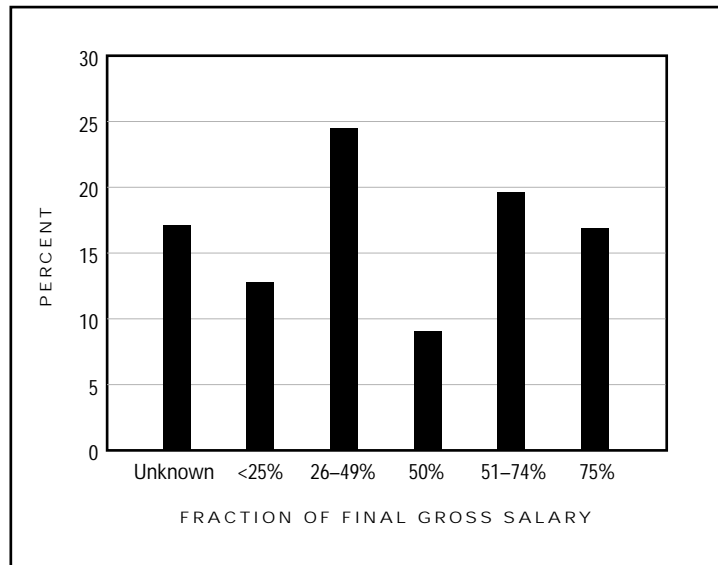
Funding of the principal or most important pension was also addressed. Contributory funding, where both employer and employee contribute, was reported as the funding for their primary pension plan by 58% of all respondents. Noncontributory plans, where the employer contributes solely, was offered less often and was the principal plan for only 36% of respondents. For about 6% of respondents, the burden to provide all financial retirement funding fell totally on the employee.

Estimated Pension Benefits
Expected total pension benefit as a percentage of final gross salary, exclusive of Social Security, was asked of the respondents. A full

TABLE 11: Most Important Pension Plan Available for all MCS (in %)

PLAN TYPE	TOTAL
EMPLOYER PENSION PLAN	66.7%
401(k) FOR PROFIT	20.4
401(k) FOR NON-PROFIT	2.5
IRAS	3.3
EMPLOYEE STOCK OWNERSHIP	5.4
OTHER	1.7

FIGURE 11: Fraction Expected of Total Gross Salary Provided by Most Important Pension Plan



17% of chemists reported “they have no idea” of what their total pension benefits will be at retirement (see Figure 11). Another 17% expected to receive as much as 75% of their final gross salary. The largest share (37%) expected to receive less than half of their final gross salary.

Of those who responded positively to the question, one-fifth expected to receive 75% of their final gross salary. Another third anticipated between 50 and 74% of their final gross salary. However, a substantial 15% expect to receive less than 25%, perhaps making their retirement a negative experience.

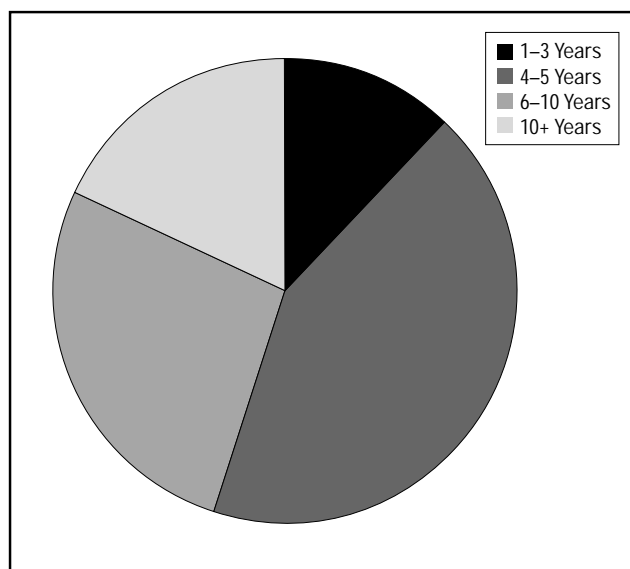
Although pension plans were offered equally to men and women, knowledge about their specific pension plan differs by sex. More than 30% of all women, double that of men, were uncertain how much of their final gross salary could be expected as total pension benefits. Men were more apt to respond that

they expected to receive a greater percentage of their gross salary at retirement. The high “don’t know” response for women makes this finding doubtful of true differences since those who are uncertain may, in fact, receive a high rate of gross salary upon retirement. However, most research on retirement shows that those with limited knowledge of their own plans have lower pension incomes upon retirement (O’Rand and Henretta, 1999).

Vesting Requirements for Pension Benefits

Vesting periods for the principal retirement plan were also examined for the 98% of respondents with traditional pension plans for their principal pension plan and are shown in Figure 12. The most common response for full vesting, given by 42.8% of chemists, was that 100% vesting occurred at 4 to 5 years. A small minority reported full vesting occurred within the first three years of employment, while another 18% were not fully vested until after their 10th year.

FIGURE 12: Full Vesting for Most Important Pension Plan



Post-Retirement Employment

Often retirees seek post-retirement employment, or a second career. Occasionally, employers place restrictions on their retirees' future employment. The survey asked, "Has the company you plan to retire from, or have retired from, placed any restrictions upon your subsequent employment?" Eleven percent of the respondents said they "could not work for related companies." An additional 3% reported that they "could not consult at their present company," and 8% said their current company put "other restrictions" on their future employment. Yet, for 78% of respondents, "no restrictions were placed on their future employment."

Preparing for the Retirement Process

The retirement process includes not only financial planning but also an understanding of the issues presented as one ages. In preparation for retirement, some employers were offering employees pre-retirement programs and/or counseling to increase satisfaction from the retirement experience. Employers of the mature career chemist were following the trend by offering 52% of them such services. The median age at which preretirement programs were offered to employees was age 55; however, nearly 20% of employees said the program was available to employees at any age. Chemists ages 50 and over were participating actively, when the program was offered, with a 60% participation rate.

Those who participated in a pre-retirement program were asked to identify topics discussed. Table 12 lists topics most often discussed at pre-retirement workshops. Not unexpectedly, financial considerations were addressed the most frequently. The most common financial topic covered was "pensions and Social Security entitle-

ments" in nearly all of the workshops. Other financial topics followed closely, with 69% of participants reporting that "managing money for retirement security" and 63% of participants reporting that "estate planning and will preparation" and/or "managing money for retirement security" were also covered. Participants also indicated that the "nature of retirement" was discussed and health issues in aging, 67.4% and 43.0%, respectively. Less frequently discussed topics included "starting a new career," "where to live in retirement" and "how to enjoy leisure time."

Health Coverage and the Transition to Retirement

A motivating factor in the timing of retirement is whether one's medical coverage continues once one retires. Studies have shown that continued medical coverage increases the

TABLE 12: Pre-Retirement Workshops: Topics Discussed for Retirement (in %)

TOPICS COVERED	% REPORTING TOPIC COVERED
PENSIONS & S.S.	95.3%
MANAGING MONEY FOR RETIREMENT SECURITY	69.0
NATURE OF RETIREMENT	67.4
ESTATE PLANNING & WILL PREPARATION	63.4
HEALTH ISSUES	43.0
HOW TO ENJOY LEISURE	22.3
STARTING A NEW CAREER	16.9
WHERE TO LIVE IN RETIREMENT	15.6
OTHER	5.3

TABLE 13: Provision of Insurance Upon Retirement

	HEALTH INSURANCE		LONGTERM CARE	
	SELF	SPOUSE	SELF	SPOUSE
FULLY-PAID BY EMPLOYER	16.3%	14.2%	1.9%	1.5%
JOINTLY-PAID BY SELF & EMPLOYER	45.6	50.2	8.8	4.9
FULLY-PAID BY SELF	11.6	13.1	7.3	10.3
NO, NOT PROVIDED	21.3	17.3	69.4	67.0
NO, PROVIDED BUT TOO COSTLY	1.8	1.0	6.4	8.5
NO, HAVE OTHER INSURANCE	3.4	3.9	6.3	7.8

COVERAGE

likelihood of retirement, and at earlier ages, while medical coverage that ends upon retirement increases the tie to the labor force (Mutchler, Burr, Massagli and Pienta, 1999). The respondents were asked, "Upon retirement, would you receive, or plan to receive, employer-provided health insurance from your previous employer?" The same question was asked of respondents regarding their employers providing medical coverage to their spouses after the respondents' retirement. Nearly 73.5% of all respondents reported that they would have some type of health coverage upon retirement provided through their employer. For about 25% of those who will have medical coverage after retirement, the employer pays the entire premium. The majority, 70%, of those with medical coverage after retirement will pay a portion of the premium together with their employer. A minority, 15%, will have medical insurance provided by their employer after retirement but will be responsible for paying the full amount of the premium.

Nearly one-quarter of the respondents will not have employer-supported medical coverage for the following reasons: "insurance not provided by the employer," "provided but too costly" or "no, have other insurance." Table 13 shows the coverage for the respondent and for their spouse. The majority of the respondents' employers also will provide the respondents' spouses with medical coverage.

On the other hand, few employers will provide long-term care insurance to either the respondent or the respondent's spouse. Only 18% of employers would provide long-term care after retirement. For those few

who will receive long-term care coverage upon retirement, the coverage is limited. Only 10% of those eligible for employer-supported long-term care insurance have a plan that covered "nursing home care." Even less of those eligible for employer-sponsored long-term care insurance, about 7%, will be able to obtain informal in-home care or access to discounts on prescriptions, eye-glasses or hearing aids. Five percent reported they would be eligible for inflation protection. Thus, for the majority of respondents, if long-term care is required, it will be a financial burden that they must bear.

Consulting

CONTINUING EMPLOYMENT THROUGH CONSULTING is an option for those who are self-employed, currently employed and/or bridging to retirement. In all, 14% of all respondents reported doing consulting at some level. Just over 6% of all respondents were “self-employed consultants,” but 75% of those who were self-employed were consulting.

Most Consultants Are Self-Employed; Few Consultants Are Women

Of those who reported any consulting activity, just over 14% of all respondents, the employment distribution is varied. While the majority of those who consulted were self-employed, nearly 9% of those employed full-time for other employers also consulted (see Table 14). Few women consulted, 8%, compared to 15% of men, but most men and women consultants were self-employed. Another way to consider this issue is that less than 7% of all of those who consulted were women.

TABLE 14: Consulting by Current or Most Recent Employment Status (in%)

EMPLOYMENT STATUS	POPULATION		
	TOTAL	MEN	WOMEN
ALL STATUSES	14.4%	15.3%	8.2%
FULL-TIME	8.6%	9.4%	3.6%
PART-TIME	16.7	16.5	17.8
SELF-EMPLOYED	76.8	76.3	70.2
SEEKING	12.9	12.6	15.0
NOT SEEKING	7.1	7.3	4.8

A few, 10%, reporting employment status as “fully retired” consulted, demonstrating the complexity of defining retirement and measuring consulting as an occupation. Consultants were more likely to have a Ph.D. as their highest degree, in contrast with less educated consultants, 24.2% and 17.8%, respectively.

Older Chemists Were More Likely To Consult

The likelihood of consulting increases with age. Respondents were asked if they were presently consulting or were considering the option of consulting. From 17.6% of those ages 50 to 54 to over 51% of those ages 65 to 69, the proportion of respondents either consulting or considering it closely followed the previously noted pattern of increasing age and was concurrent with self-employment.

TABLE 15: Consulting or Considering to Consult Increases With Age (in%)

AGE	TOTAL
50-54	17.6%
55-59	22.9
60-64	27.2
65-69	51.2

As % of Total MCC Population in Age Cohort

Number of Hours Consulting Varies by Employment Status, Age and Sex

Consulting varies by number of hours spent as a consultant as shown in Table 16. Two-thirds of all consultants were involved in less than 40 hours per month of consulting. An additional 13% worked half-time, consulting between 40 and 79 hours. Those consulting 80 to 139 hours monthly were about 14% of all consultants. Only 7% of all consultants worked full-time, 140 hours or more per month consulting. Thus, consulting as a primary employment status involves less than 10 percent of all those who acted in the consulting capacity. Little difference was observed for men and women in the number of consulting hours; both self-employed men and women reported working 40 median consulting hours.

Age was a factor contributing to increased consulting hours. Those ages 65 to 69 were nearly double that of other age cohorts to consult 80 to 139 hours and less likely to consult 140 hours or more. On the other hand, those ages 50 to 59 were far more apt to be working more than 140 hours per month, or full-time.

Earnings from Consulting Vary by Sex, Degree and Hours

Median and mean consulting income is considerably higher for men, \$14,400 median and \$34,298 mean, than it is for women, \$9,000 median and \$22,537 mean. And, while women's consulting income is less, all women consultants reported higher median consulting hours than did all men who were consulting, 20 hours per month compared with 16 hours for men.

TABLE 16: Hours of Consulting by Employment (in %)

	# OF HOURS/MONTH			
	0-40	40-79	80-139	140+
ALL CONSULTING	66.1%	12.9%	14.0%	6.9%
FULL-TIME	87.0%	2.9%	2.2%	7.9%
PART-TIME	47.9	23.1	28.9	0.0
SELF-EMPLOYED	45.0	22.0	22.4	4.8
SEEKING	55.4	3.8	40.8	0.0
NOT SEEKING	86.5	8.7	4.3	0.0
AGE				
50-54	78.7%	4.5%	9.0%	7.6%
55-59	60.5	10.8	13.1	15.6
60-64	59.2	23.0	12.8	5.1
65-69	68.1	10.2	20.0	1.6
SEX				
MEN	65.8%	12.8%	14.2%	7.1%
WOMEN	66.9	15.7	12.4	5.0

TABLE 17: Median Hourly Consulting Rate by Sex, Age & Degree

	HOURLY RATE
DEGREE	
BA	\$65
MA	60
PhD	70
SEX	
MEN	\$75
WOMEN	50
AGE	
50-54	\$100
55-59	75
60-64	75
65-69	50

Rate per consulting hour was also asked of those who had consulted. Rate varied expectedly for men and women, with men chemists' median rate a third higher than women's, at \$75 and \$50, respectively. What was unanticipated was that the consulting hourly rate was higher for those ages 50 to 54, steadily decreasing with those in the oldest cohort commanding the lowest hourly median rate. Also unexpected was that those whose highest degree was a bachelor's commanded \$5 more per hour than did those with a master's degree.

Current or most recent employment sector also strongly influenced the prior year's total consulting income. Table 18 provides consulting income by respondent's current or most recent employment sector. Those in nonmanufacturing sectors reported the highest consulting income for the prior year. Self-employed consultants lagged behind and reported less than half the median income of nonmanufacturing consultants, with a mean income well below nonmanufacturing at \$9,725. Academics' median consulting income was the lowest at \$5,000, but interest-

ingly, the highest consulting income reported by academics equaled the highest reported in the nonmanufacturing and government sector—at \$300,000 (data not shown). Self-employed consultants' high-end earnings reported in 1998 were as \$100,000 less than either academics or those in nonmanufacturing sectors.

Current pension receipt appears to cushion the risk taken for a majority of men consultants. For 70% of men who reported some consulting, they also reported receiving a pension. For the few women who do consult, only 40% of them were currently receiving a pension. Thus, given that men's earnings were higher, men were twice as likely to currently be receiving a pension and the expected total pension benefits were higher for men, men take less risk when consulting—especially in a male-dominated environment.

Planning the Consulting Process

The pursuit of consulting takes planning with consideration of client base, tax laws, location and even the impact consulting may have on

TABLE 18: Median and Mean Consulting Income in 1999 by Industry

INDUSTRY	MEDIAN	MEAN
	NON-MANF	\$50,000
MANF	15,750	31,014
GOVERNMENT	6,000	12,088
COLL/UNIV	5,000	28,040
HIGH SCHOOL	200	759
SELF-EMPLOYED	20,000	51,372
OTHER	25,000	34,041

FIGURE 13: Median & Mean Consulting Income by Sex

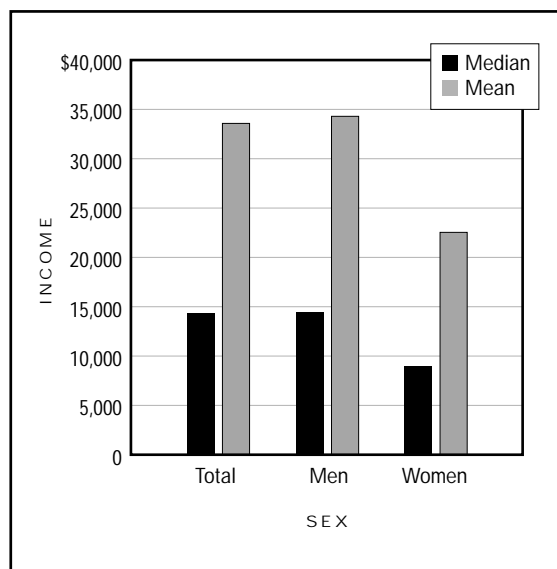
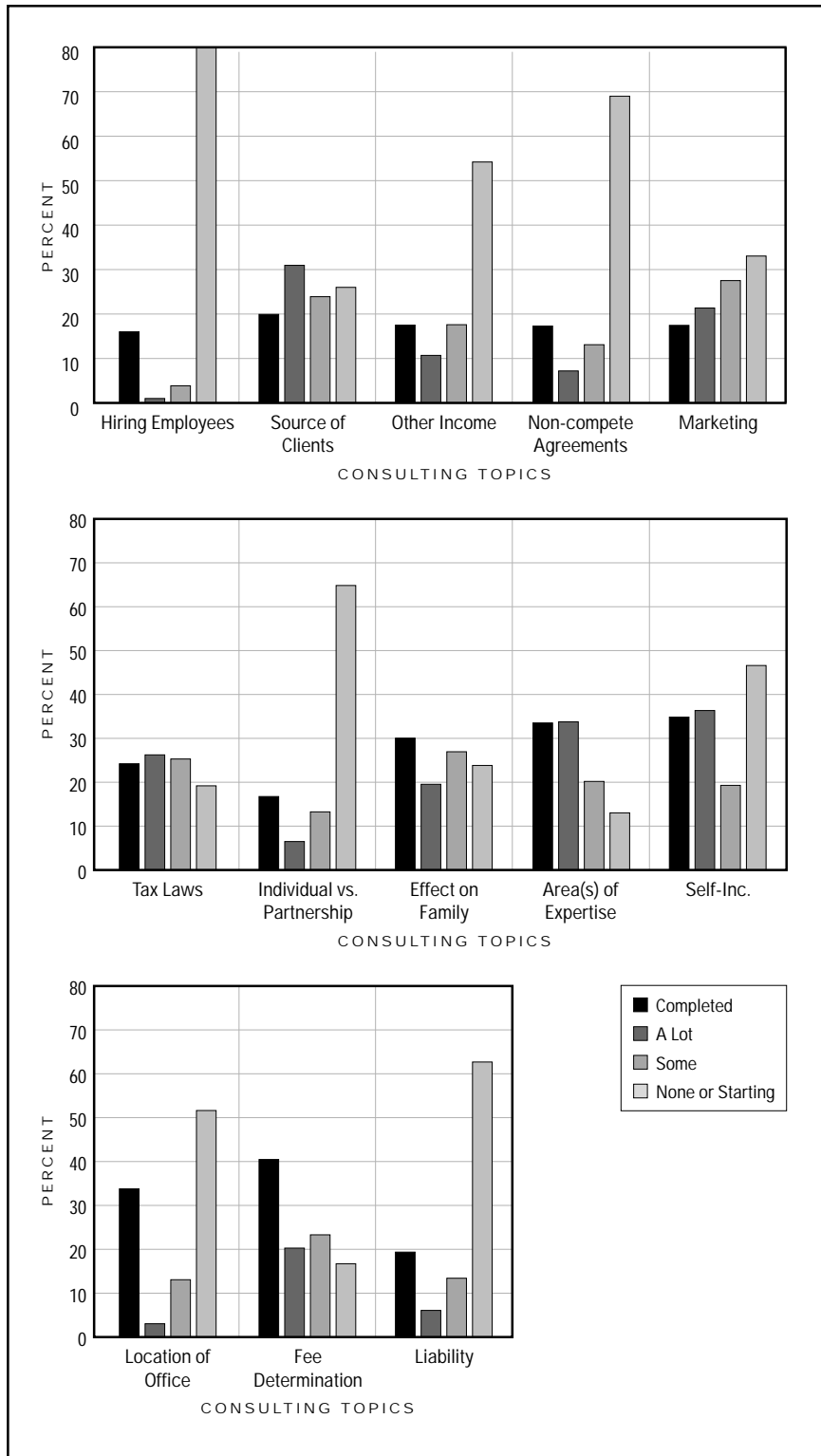


FIGURE 14: Planning the Consulting Process by Those Who Have Consulted



one's family. Respondents were asked about how much planning and thought had been given to these areas in regard to consulting. Figure 14 provides the results on significant issues when considering consulting as either a part-time or full-time option.

Even for the vast majority of consultants, planning appeared to be in the early stages of development. Except for exploring issues such as how much to charge clients, self-incorporation and their own area of expertise, those who are consulting have given scant attention to planning.

Nearly 40% had set their fee, while another 20% had given a lot of thought to "fee determination." More than one-third of consultants reported they had completed their process on "area(s) of expertise," "self-incorporation," "tax laws" and "the effect consulting would have on their family." Thus, while many consultants are uncertain about many areas of concern regarding consulting, nearly one-third of consultants have given considerable thought and, therefore, planning to the consulting process. A portion of this difference may be the fact that the majority of respondents who reported consulting were also employed either full-time or part-time or retired; thus consulting is not their sole income.

Familial Influences

Marriage and Children

Respondents in the chemical profession ages 50 to 69 were predominately male; thus the effect of potential or past family obligations on one's retirement or career are often overlooked. One of the most normative processes in assuming adult roles is marriage. Society assumes that married men were more productive and stable employees, while married women were looked at as suspect in the professional world. Thus, professional women who chose careers often do not marry in order to be taken seriously in the professional market (Blau, F. D., 1998). Professional women, especially in the past, clearly followed this pattern of retreat from marriage—with over 17% remaining single compared to only 3.6% of men chemists (see Table 19). Women chemists were also three times more likely to be previously married than male chemists—perhaps illustrating the stress that a professional woman brings to the

marriage relationship. Married women more often married another chemist or scientist, rather than a nonscientist, 40.3% and 26.0%, respectively. Men, on the other hand, married nonscientist women the vast majority of the time, 73.6%.

A second normative behavior demonstrative of adult roles in society is becoming a parent. Again, employers view men with children as stable employees, while for women, employers feel child-bearing and child-rearing reduce a woman's commitment to her profession (Bergstrom, T. C., 1996). Rate of childlessness is also shown in Table 19. Mature women chemists have low rates of child-bearing compared to other women in their birth cohorts. Over 40% of women chemists remained childless at middle age, while less than 12% of men were childless. The rate of childlessness increased for women as their educational attainment increased—only 35% of women whose highest degree was a bachelor's

TABLE 19: Marital Status and Childbearing of MCC by Sex and Highest Degree (in %)

	MEN				WOMEN			
	ALL	BA	MA	PhD	ALL	BA	MA	PhD
MARITAL STATUS								
SINGLE, NEVER MARRIED	3.6%	4.6%	5.7%	2.7%	17.8%	14.1%	18.35	19.6%
SINGLE, PREVIOUSLY MARRIED	5.9	6.1	6.5	5.6	15.8	18.0	17.6	13.2
CURRENTLY MARRIED/ PARTNERED TO CHEMIST	7.4	3.6	3.7	9.4	19.4	13.7	15.5	25.5
CURRENTLY MARRIED/ PARTNERED TO NON-CHEMIST	9.5	8.6	9.8	9.7	20.9	23.2	20.7	19.9
CURRENTLY MARRIED/ PARTNERED TO NON-SCIENTIST	73.6	77.1	74.3	72.5	26.0	31.0	27.9	21.8
HAVE CHILDREN	88.2	88.1	85.6	88.8	60.0	64.8	56.3	59.9

remained childless while 40% of Ph.D. women were childless.

The conflict between professionalism and family might explain the lower rating of career satisfaction given by women respondents compared to men. More men responded that they were “very satisfied” with their career than did women, 51.1% and 40.6%, respectively. While familial responsibilities are unmeasured, regrets of family and professional decisions might interact to reduce women’s career satisfaction.

Women also experienced sex discrimination and age discrimination more often than do men. Sex discrimination of women in the chemical profession was reported by over 60% of all women, but few men, less than 3%, felt they had been discriminated against because of their sex. In addition, less than 18% of men were subjected to age discrimination, while nearly one-fourth of women reported age discrimination. Often these types of discrimination patterns are linked to family obligations and employers’ expectations for workers.

Hiatus

Women were also more likely to report having taken a hiatus of more than 6 months in their career when compared to men—and for different reasons (see Table 20). Only 15% of men reported a hiatus when not working or attending school, but 41% of women reported a hiatus of six months or more. Primary reasons given for their most significant hiatus differ for men and women.

Of those who had a hiatus of six or more months during their career, 65.8% of men gave involuntary termination as the primary reason for their hiatus, while for women, the overwhelming response was child-care needs. Few reported personal medical or elder care as a reason for a hiatus. The hiatus also affected careers differently for men and women. While most felt the break negatively affected their career, 10% more women felt this negative experience than did men. Nearly three times more men felt the hiatus positively helped their career than did women. More highly educated women felt the

TABLE 20: MCC Respondents With Hiatus of Six or More Months: Most Important Reason for Hiatus by Sex (in %)

	POPULATION		
	TOTAL	MEN	WOMEN
INVOLUNTARY TERMINATION	51.4%	65.8%	16.3%
VOLUNTARY TERMINATION	14.3	15.3	11.9
CHILDCARE NEEDS	17.3	1.0	57.3
ELDER CARE NEEDS	1.2	1.2	1.2
PERSONAL MEDICAL	1.9	1.8	1.9
OTHER	13.8	14.8	11.4

negative effect of a hiatus than did lower educated women and men of all education levels. Since women's hiatuses were strongly tied to child-bearing and child-rearing issues, this suggests that child responsibilities affect women in overlooked and unexpected areas. For those who had a hiatus the median number for both men and women was two.

The process of family responsibilities merging with retirement financial stability and timing of retirement was more strongly observed for women than for men. The data suggest that women chemists' retirement processes at all professional levels were more affected by familial obligations than men's. Clearly, these processes influence women's retirement lives (Farkas and O'Rand, 1998).

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The Letters and Questionnaire

Pre-Mailing Letter

Dear Member:

Very shortly, you will receive a survey from the ACS Committee on Economic and Professional Affairs (CEPA). The survey is designed to gather information on the entire professional careers, present status and future professional plans of ACS members ages 50-69. A representative sample of ACS membership in this age range will be sent with the survey. It is very important that we hear from each member who receives the survey, so that the results accurately reflect the ACS membership.

The committee has several goals with the survey. The first goal is to understand where ACS can meet the needs of the maturing chemistry professional, especially when he or she is approaching the age when many retire. Because of the tough market for mid- and later-career chemists of the 1990s, the study also asks how the mature chemistry professional has fared through the decade and more.

The information gathered in the survey will be held in the strictest confidence. The data from the survey will never be connected to the name of the respondent.

Once again, this is an important survey. When it arrives, please take the time to fill it in and return it to us as soon as possible. Thanks for your help.

Sincerely yours,

Jim Long, Chair

Subcommittee on Surveys, CEPA

First Full Mailing

May 1999

Dear Member:

This survey is from the ACS Committee on Economic and Professional Affairs (CEPA). It is designed to gather information on the entire professional careers, present status and future professional plans of ACS members ages 50 to 69. The committee has several goals with the survey. The first goal is to understand where ACS can meet the needs of the maturing chemistry professional, especially when he or she is approaching the age when many retire. On the other hand, some professionals continue with their profession in various capacities after retirement age. Because of the tough market for mid- and later-career chemists of the 1990s, the study also asks how the mature chemistry professional has fared through the decade and more.

The information gathered in the survey is strictly confidential. The data from the survey is never connected to the name of the respondent. The numbers on your survey are only for mailing purposes and to match the two sections of the survey.

Once again, this is an important survey. Please take the time to fill it in and return it to us as soon as possible. Thanks for your help.

Sincerely yours,
Jim Long, Chair
Subcommittee on Surveys, CEPA

Follow-Up Letter

June 1999

Dear Member:

Last month I sent you an important questionnaire. The Mature Career Chemist is an in-depth study being conducted to better understand the labor force participation, present status and plans of mature chemical professionals. The preliminary return rate has been unusually high, promising that this study will produce significant results.

As of today, we have not received your completed questionnaire. I realize you may have not had time to finish it. Returning your completed questionnaire will help guarantee the success of this project. Please take a few minutes now to complete it, then return it in the enclosed business-reply envelope. In the event your questionnaire was misplaced, a replacement is enclosed. If you have already mailed your questionnaire, please do not complete this one.

The final results of the survey will be published in an extensive report. If you would like a copy of the report, please fill out the enclosed card and return it with your completed survey. I will be happy to send you the report when it is published.

For answers to any questions you have about the survey, please write or call Mary Jordan at 800/227-5558, extension 4433. You may also contact her through an ACS e-mail address: m_jordan@acs.org.

Sincerely,
Jim Long, Chair
Subcommittee on Surveys, CEPA

The Mature Career Chemist Questionnaire

I. CURRENT STATUS

1. What is your current employment status? Choose the one category that best fits your situation.
 1. Employed full-time (35 hours or more per week) in a permanent position (Go to Q 3)
 2. Employed full-time (35 hours or more per week) in a temporary position (Go to Q 3)
 3. Employed part-time (less than 35 hours per week) (Go to Q 3)
 4. Self-employed/consultant (Go to Q 3)
 5. Not employed, but actively seeking employment (Go to Q 2)
 6. Not employed and not seeking employment (Go to Q 2)

2. What are the reasons why you are no longer working? Check all that apply.
 1. Retired
 2. Currently no job opportunities in my field
 3. My health does not permit it
 4. The incentive to work is not sufficient
 5. Family responsibilities
 6. I do not want to work anymore
 7. Terminated
 8. Other, please specify _____

3. Are you currently receiving a pension from previous employment?
 1. Yes (Go to Q 3A)
 2. No (Go to Q 4 skipping questions 3A through 3O below)

3A.) From what employment sector are you receiving a pension? Check all that apply.

 1. Non-manufacturing industry, including consulting firms
 2. Manufacturing industry
 3. Government

- 4. College/university/medical school/professional school
- 5. High school
- 6. Self-employed
- 7. Other (specify)_____

3B.) For how long have you received a pension?

_____years _____months?

3C.) Did you initiate a request for retirement?

- 1. Yes
- 2. No (Go to Q 3E)

3D.) If you initiated a request for retirement, was it based upon any of the following circumstances?

Please check all that apply, then check the one that was most important.

All That Apply	One Most Important	
<input type="checkbox"/>	<input type="checkbox"/>	Assets sufficient to retire
<input type="checkbox"/>	<input type="checkbox"/>	Attractive pension offer
<input type="checkbox"/>	<input type="checkbox"/>	Attractive job offer from another employer
<input type="checkbox"/>	<input type="checkbox"/>	Opportune time to engage in consulting work or start business
<input type="checkbox"/>	<input type="checkbox"/>	Concern for my health
<input type="checkbox"/>	<input type="checkbox"/>	Concern for the health of a family member
<input type="checkbox"/>	<input type="checkbox"/>	Physical demands of job too great
<input type="checkbox"/>	<input type="checkbox"/>	Disability made it difficult to continue work
<input type="checkbox"/>	<input type="checkbox"/>	Stress of job too great
<input type="checkbox"/>	<input type="checkbox"/>	More difficult to achieve company's performance expectations
<input type="checkbox"/>	<input type="checkbox"/>	Job no longer challenging
<input type="checkbox"/>	<input type="checkbox"/>	Less content to work under supervision
<input type="checkbox"/>	<input type="checkbox"/>	Conflict with my superiors
<input type="checkbox"/>	<input type="checkbox"/>	Worked long enough
<input type="checkbox"/>	<input type="checkbox"/>	Wanted more recreation or leisure time
<input type="checkbox"/>	<input type="checkbox"/>	After taxes, the incentive to continue working no longer sufficient
<input type="checkbox"/>	<input type="checkbox"/>	Other (please specify)_____

3E.) If you did not initiate a request for retirement, was it because of:

- 1. Downsizing/Mergers/Consolidation
- 2. Age Discrimination
- 3. Other, please specify _____

3F.) In what year did you retire from the employer from whom you are receiving the pension? 19_____

3G.) Do you now feel that your pension or pension plan is:

1. More than adequate
2. Adequate
3. Less than adequate

3H.) In retrospect, all things considered, do you feel that you retired:

1. Too soon
2. At about the right time (Go to 3K)
3. Too late (Go to 3J)

3I.) If you feel that you retired too soon, which of the following are reasons why you feel this way?

Please check all that apply, then go to Q 3K.

1. The behavior of the stock market has adversely affected my net worth
2. Inflation has eroded the value of my income
3. I don't have enough to do with my time
4. I miss the contact with people I had on my job
5. I miss the challenge and excitement involved in performing successfully on my job
6. I was forced to retire
7. Other, please specify _____

3J.) If you feel that you retired too late, which of the following are reasons why you feel this way?

Please check all that apply.

1. I wish I had freed myself sooner from job related pressures
2. Extending my employment adversely affected my health
3. Poor health now restricts me from carrying out some of my post retirement plans
4. Later retirement cost me better post-retirement work
5. Other, please specify _____

3K.) Which of the following best describes your health since retirement?

1. My health has improved since I retired
2. My health is about the same as it was just before I retired
3. My health has become worse since I retired

3L.) Taking all things into consideration, how would you characterize your retirement?

1. I am very satisfied
2. I am moderately satisfied
3. I am moderately dissatisfied
4. I am very dissatisfied

3M.) Have you worked for an employer in a capacity other than consulting since retiring?

1. Yes
2. No (Go to Q 4)

3N.) Why did you go back to work? Please check all that apply.

1. I wanted more income
2. I was very concerned about the effect of inflation upon my future standard of living
3. I wanted more contact with people
4. I wanted to keep working
5. I was concerned that not working would have an adverse effect on my health
6. Other, please specify _____

3O.) How do you feel about your current job, compared to your pre-retirement job?

1. Much more satisfying
2. Somewhat more satisfying
3. About the same
4. Somewhat less satisfying
5. Much less satisfying

All Respondents continue here with current employment for those working; with most recent employment for those who are unemployed or fully retired.

4. On average, how many total hours per week do you presently work in your place of employment/consulting? This is the total number of hours you work professionally, including all employment.
- _____ Hours per week

5. Does your current, or did your most recent, employer have a pre-retirement counseling program for employees to assist you in planning for your retirement?
1. Yes 2. No (Go to Q 6)

If yes, at what age is the program offered to employees?

_____ years old

If yes, have you taken advantage of these programs?

1. Yes 2. No (Go to Q 6)

If yes, which of the following topics are discussed in your pre-retirement program?

Please check all that apply

1. The nature of retirement
2. Health problems in retirement
3. Pensions and Social Security entitlements
4. Estate planning, will preparation, etc.
5. Starting a new career

- 6. Managing money for retirement security
- 7. Where to live in retirement
- 8. How to enjoy leisure
- 9. Other, please specify _____
- 10. Don't know

6. What types of pension plans are available to you: Please check all that apply, then check the one that was most important.

*All That One Most
Apply Important*

- | | | |
|----|----|---|
| 1. | 1. | Employer pension plan, either defined contribution or defined benefits
(includes TIAA-CREF and federal or state plans) |
| 2. | 2. | Salary reduction plan for profit-seeking organizations – 401(k) plan |
| 3. | 3. | Salary reduction plan for non-profits – 403(b) plan |
| 4. | 4. | Individual Retirement Accounts (IRAs) |
| 5. | 5. | Employee stock ownership, profit sharing, or other plans:
please specify _____ |
| 6. | 6. | No plan offered |

7. How is your principal retirement funded? If you have more than one, respond only for the principal plan

- 1. Contributory (both employer and employee pay)
- 2. Noncontributory (employer pays all)
- 3. Employee pays all

8. What is or was the full vesting period for the principal retirement plan?

_____ years total

9. What fraction of your final gross salary, exclusive of social security, are the total pension benefits you have or you expect to have?

- 1. Less than 25% of final salary
- 2. 26-49% of final salary
- 3. 50% of final salary
- 4. 51-74% of final salary
- 5. 75% or more of final salary
- 6. Don't know

10. Does the company you plan to retire from, or have retired from, place any restrictions upon your subsequent employment?

1. Yes, I could not work for related companies
2. Yes, I could not do consulting work for my company
3. No
4. Other, please specify _____

11. Do you now, or plan to consult?

1. Yes, for present employer
2. Yes, other employer/s
3. Undecided (Go to Q 11B)
4. No (Go to Q 12)

11A.) If consulting now, on average, how many hours per month? Else go to Q 11B.

_____ hours per month

What is your hourly rate?

\$ _____ per hour

What was your total consulting income in 1998?

\$ _____

11B.) How much thought have you given to the following areas of concern regarding consulting?

	<i>None</i>	<i>Starting</i>	<i>Some</i>	<i>A Lot</i>	<i>Completed</i>
a. Source of clients	1.	2.	3.	4.	5.
b. Area(s) of expertise	1.	2.	3.	4.	5.
c. (Self) incorporation	1.	2.	3.	4.	5.
d. Replacement of employee benefits	1.	2.	3.	4.	5.
e. Source of income until your client base develops	1.	2.	3.	4.	5.
f. Effect on non-compete agreements	1.	2.	3.	4.	5.
g. How to market yourself	1.	2.	3.	4.	5.
h. Individual vs. partnership consultancy	1.	2.	3.	4.	5.
i. Hiring of employees	1.	2.	3.	4.	5.
j. Location of office	1.	2.	3.	4.	5.
k. Determination of your salary	1.	2.	3.	4.	5.
l. Effect of tax laws	1.	2.	3.	4.	5.
m. Effect on your family	1.	2.	3.	4.	5.
n. Professional liability to cover errors and commissions	1.	2.	3.	4.	5.

12. Do you receive, or plan to receive upon retirement, employer-provided health insurance from your previous employer?

	<i>Covered by plan</i>	
	<i>Self</i>	<i>Spouse/Partner</i>
Yes, fully-paid by employer	1.	2.
Yes, jointly paid by employer and self	1.	2.
Yes, fully paid by self	1.	2.
No, not provided	1.	2.
No, provided but too costly	1.	2.
No, have other insurance	1.	2.

13. Do you receive, or plan to receive upon retirement, employer-provided long-term care insurance from your previous employer?

	<i>Covered by plan</i>	
	<i>Self</i>	<i>Spouse/Partner</i>
Yes, fully-paid by employer	1.	2.
Yes, fully-paid by self	1.	2.
Yes, jointly paid by employer and self	1.	2.
No, not provided	1.	2.
No, provided but too costly	1.	2.
No, have other insurance	1.	2.

14. If you receive or plan to receive upon retirement, employer-provided long-term care insurance, does the plan cover: Please check all that apply.

1. Nursing home care
2. Informal in-home care (reimbursement for care provided by friends or family members)
3. Inflation protection
4. Access to discounts on prescriptions, eye glasses, and hearing aids

14A.) If yes to any long-term care: Is the plan tax qualified?

1. Yes
2. No

15. How can/could ACS make/have made your retirement easier?

16. Today, which of the following work schedules would you prefer?

1. Full-time for the full year
2. Full-time for part of the year
3. Part-time for the full year
4. Part-time for part of the year
5. None

II. EMPLOYMENT

All respondents: with current employment for those working; with most recent employment for those who are unemployed or fully retired.

17. Are you currently or were you most recently employed in:

1. Non-manufacturing industry, including consulting firms
2. Manufacturing industry
3. Government
4. College/university/medical school/professional school
5. High school
6. Self-employed
7. Other, please specify _____

18. What is your current or most recent employer's approximate number of employees?

1. Self-employed, no other employer
2. Less than 50
3. 50-99
4. 100-499
5. 500-2,499
6. 2,500-9,999
7. 10,000-24,999
8. 25,000 or more

19. How many years have you worked for this employer/been self-employed?
If fully retired from this position and not working, how long since you left position?

_____ years _____ months

20. How many employees do you, or did you supervise? _____

21. Would you describe your present or most recent primary work function as:

1. Analytical Services, other than forensics
2. Chemistry information services
3. Computer programming, analysis, design
4. Consulting
5. Forensics
6. General management or administration (other than R&D)
7. Health & safety/regulatory affairs
8. Marketing/sales/ purchasing/economic evaluation

- 9. Patents/licensing
- 10. Production/quality control
- 11. R&D applied research, design, and development
- 12. R&D basic research
- 13. R&D management or administration
- 14. Teaching or training
- 15. Other, please specify _____

22. Does your most current or most recent employer, allow you to take advantage of educational benefits to prepare for a second career?

- 1. Yes
- 2. No
- 3. Not applicable

23. What is your current annual base salary as of March 1, 1999? Do not include bonuses, earnings from second employer, overtime work, summer teaching, or other supplemental earnings. If on a 9 or 10 month contract, report the 9 or 10 month salary rather than an annualized salary.

\$ _____ as of March 1, 1999

24. What was your total professional income during the calendar year 1998? Include consulting fees, base annual salary, bonuses, earnings from second employer, overtime, summer teaching, and other supplemental earnings.

\$ _____ for calendar year 1998

III. CAREER TRANSITIONS

25. During your employment career, did you change from an industrial, academic, or government sector job to a different sector?

- 1. Yes 2. No (Go to Q 26)

If yes, how many changes? _____

Please fill out the following beginning with the most recent change:

- a. From sector _____ to sector _____ in 19____
- b. From sector _____ to sector _____ in 19____
- c. From sector _____ to sector _____ in 19____
- d. From sector _____ to sector _____ in 19____

26. Has there been a time in your career during which you were either not working or not attending school full-time for more than six months?
1. Yes, I was unemployed
 2. Yes, I had leave without pay
 3. Yes, I had paid leave – not vacation
 4. No (Go to Q2)

If yes, how many hiatuses? _____

27. What was the reason for the one most significant hiatus?
Please check the most significant.
1. Involuntary termination
 2. Voluntary termination
 3. Child care needs (and/or maternity)
 4. Elder care needs
 5. Personal medical
 6. Other, please specify _____

28. Do you feel that hiatus had an effect on your career?
1. No
 2. Yes, it helped my career
 3. Yes, it hurt my career

29. During your career, have you ever experienced adverse professional treatment because of your:

	Yes	No
Sex	1.	1.
Age	2.	2.
Race/Ethnicity	3.	3.
Disability	4.	4.
Citizenship	5.	5.

30. Taking all things into consideration, how would you characterize your career?
1. I am very satisfied
 2. I am moderately satisfied
 3. I am moderately dissatisfied
 4. I am very dissatisfied

31. Compared to other people your age, how would you describe your health?
1. Good/Excellent health
 2. Fair health
 3. Poor health
 4. Very poor health

IV. PROFESSIONAL INVOLVEMENT

32. To how many professional associations do you belong?
1. ACS only
 2. Two professional associations (ACS and one other)
 3. Three or more professional associations (ACS and two or more others)
- Please list other associations

33. In what year did you join the ACS? 19____
34. Have you attended an ACS Local Section meeting in the last 12 months?
1. Yes
 2. No
35. Have you participated in Local Section programs, activities, workshops, i.e. Kids and Chemistry and National Chemistry Week in the last 3 years?
1. Yes
 2. No
36. Have you attended a national or regional ACS meeting in the last 3 years?
1. Yes
 2. No
37. Have you participated in ACS divisional activities in the last 3 years?
1. Yes
 2. No
38. Have you volunteered time for your professional association activities in the last 3 years?
1. Yes
 2. No
39. Have you used your background in chemistry or chemical engineering to participate in any community organizations or in civic affairs in the last 3 years?
1. Yes
 2. No

If yes, what do/did you do?

40. Are you aware, or have you used any of the following ACS employment programs? Please check all that apply. If you have used a program, please rate that program. Use a scale of 1 to 5, where 1 is "excellent" and 5 is "poor."

<i>Employment programs/services</i>	<i>All</i>	<i>All</i>	<i>Rate 1-5</i>				
	<i>Aware of</i>	<i>Used</i>	<i>Excellent</i>				<i>Poor</i>
Career Consultant Program	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Confidential Employment Listing	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Employment ads in C&EN	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Employment Clearing House –							
National meeting	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Regional meetings	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Job Bank	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Local Section career assistance programs	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Mock Interview Sessions	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Professional Data Bank	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Resume Review	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Situations wanted ads in C&EN	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.

41. Below is a list of ACS programs, services, and activities. From this list, select up to five items from from you received the most benefit personally and also up to five items that are most important for the profession.

<i>Five Most Personal Benefit</i>	<i>Five Most Important for Profession</i>	<i>ACS Programs, Services, and Activities</i>
<input type="checkbox"/>	<input type="checkbox"/>	Awards programs
<input type="checkbox"/>	<input type="checkbox"/>	Career development programs
<input type="checkbox"/>	<input type="checkbox"/>	Career guidance programs to assist students
<input type="checkbox"/>	<input type="checkbox"/>	ChemCenter
<input type="checkbox"/>	<input type="checkbox"/>	Chemical Abstracts Service
<input type="checkbox"/>	<input type="checkbox"/>	Chemical & Engineering News
<input type="checkbox"/>	<input type="checkbox"/>	College/university information
<input type="checkbox"/>	<input type="checkbox"/>	Continuing education programs
<input type="checkbox"/>	<input type="checkbox"/>	Divisional activities and programming

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Employment services |
| <input type="checkbox"/> | <input type="checkbox"/> | Insurance and retirement programs |
| <input type="checkbox"/> | <input type="checkbox"/> | International activities |
| <input type="checkbox"/> | <input type="checkbox"/> | Local section activities |
| <input type="checkbox"/> | <input type="checkbox"/> | Member assistance programs |
| <input type="checkbox"/> | <input type="checkbox"/> | Member newsletters |
| <input type="checkbox"/> | <input type="checkbox"/> | National Chemistry Week |
| <input type="checkbox"/> | <input type="checkbox"/> | National Meetings |
| <input type="checkbox"/> | <input type="checkbox"/> | Pre-college chemistry education |
| <input type="checkbox"/> | <input type="checkbox"/> | Pre-high school science activities |
| <input type="checkbox"/> | <input type="checkbox"/> | Professional Employment Guidelines |
| <input type="checkbox"/> | <input type="checkbox"/> | Promoting change in federal legislative and regulatory policy |
| <input type="checkbox"/> | <input type="checkbox"/> | Public affairs pamphlets |
| <input type="checkbox"/> | <input type="checkbox"/> | Regional meetings |
| <input type="checkbox"/> | <input type="checkbox"/> | Student Affiliate Program |
| <input type="checkbox"/> | <input type="checkbox"/> | Surveys on employment and salary information |
| <input type="checkbox"/> | <input type="checkbox"/> | Technical publications in your area of specialty |
| <input type="checkbox"/> | <input type="checkbox"/> | Undergraduate curriculum approval program |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |

42. Are you aware or have you used any of the following ACS insurance or retirement plans? Please check as many as apply. If you have used a plan, please rate that plan. Use a scale of 1 to 5, where 1 is "excellent" and 5 is "poor."

<i>ACS Members Insurance Plans</i>	<i>All Aware of</i>	<i>All Used</i>	<i>Rate 1-5</i>				
			<i>1.</i>	<i>2.</i>	<i>3.</i>	<i>4.</i>	<i>5.</i>
Term life plan	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Long-term Care plan	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Disability Income protection	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
High-limit accidental death & dismemberment plan	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Major medical plan	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Short-term medical plan	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Catastrophe major medical plan	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Supplemental retirement programs	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Individual retirement annuity (IRA)	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.
Non-qualified tax deferred annuity	<input type="checkbox"/>	<input type="checkbox"/>	1.	2.	3.	4.	5.

43. Do you have any suggestions for other insurance or financial benefits ACS could provide?

V. DEMOGRAPHICS

44. What is your age as of March 1, 1999? _____ years old

45. What is your sex:

1. Male
2. Female

46. What is your current marital status?

1. Single, never married
2. Single, previously married
3. Currently married/partnered to a chemist
4. Currently married/partnered to a scientist, non-chemist
5. Currently married/partnered to a non-scientist

47. Do you have any children?

1. Yes
2. No

If yes, how many? _____

How old is the youngest child? _____ years old

How old is the oldest child? _____ years old

48. What is the highest degree you have received to date:

1. Less than Bachelors
2. Bachelors
3. Masters
4. Doctorate
5. Other, please specify _____

49. What is or was, your field of employment:

1. Chemistry
2. Chemical engineering
3. Other, please specify _____

VI. CAREER EVENTS TIMELINES

Careers are shaped by more than what a single survey can usually disclose. This next section of the survey provides a more complete and statistically powerful picture of professional careers. The Career Events Timelines section attempts to capture major events and dynamic life style changes thought to affect careers and lives. (Continue to insert in back of survey)

Career Events Timeline

On the following page are timelines, which will be used to address the major life changes typically found throughout one's career. Please take the insert and fill it out in relation to the age you were when the stated events occurred. Place an x in the square where that event or state first occurred or began and extend a line until the end of the occurrence. Thank you for taking the time to help the ACS with this undertaking.

You are asked to complete ongoing states and single events in the following time lines.
Here are two examples:

Continuous Event Family Career Timeline

Employment Career Timeline

Employer 4 _____	Unemployed 4 _____ mos
Employer 5 _____	Unemployed 5 _____ mos
Employer 6 _____	Unemployed 6 _____ mos
Employer 7 _____	Unemployed 7 _____ mos
Employer 8 _____	Unemployed 8 _____ mos
Employer 9 _____	Unemployed 9 _____ mos
Employer 10 _____	Unemployed 10 _____ mos

Your comments are welcome.

THANK YOU FOR YOUR PARTICIPATION

Please insert this form into the confidential envelope provided and return the envelope and cover letter in the enclosed business reply envelope.

Department of Career Services
American Chemical Society
1155 Sixteenth Street, NW
Washington, DC 20036