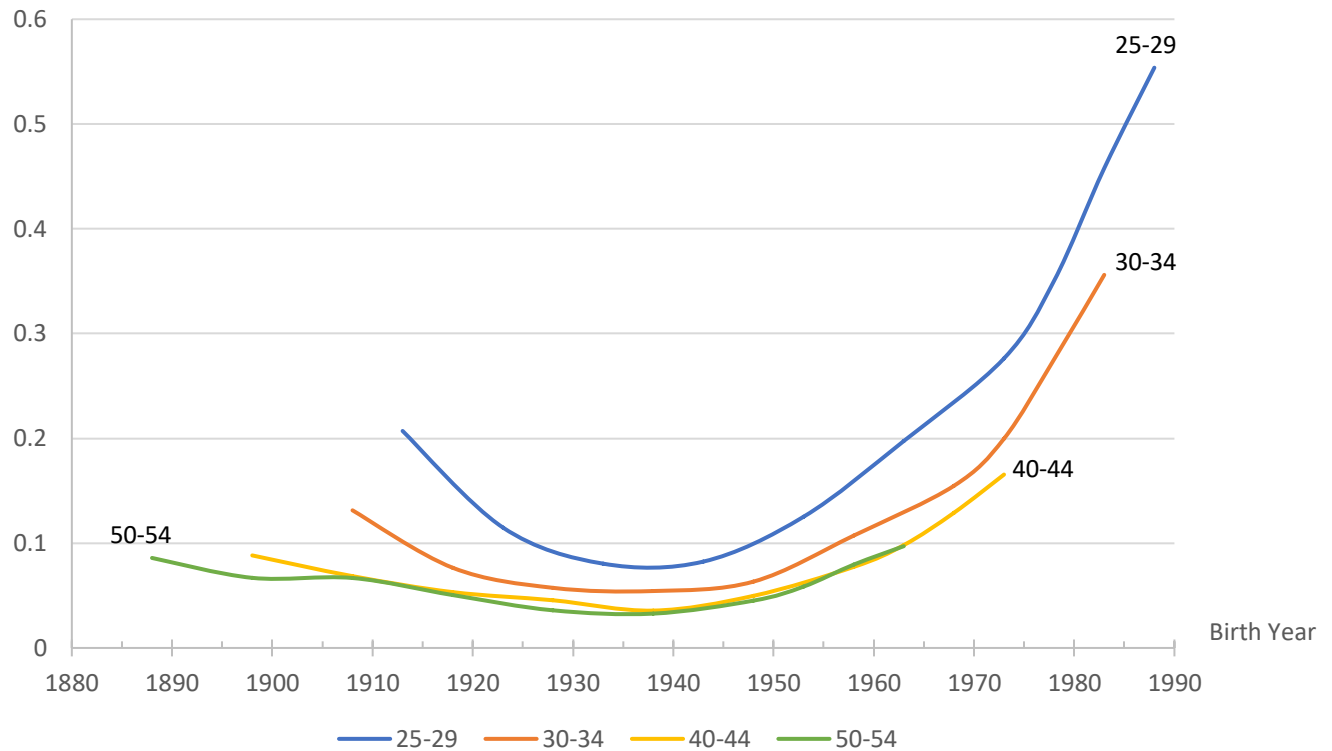


## Online Appendices to Chapters in *Career & Family: Women's Century-Long Journey toward Equity*

### Chapter 2:

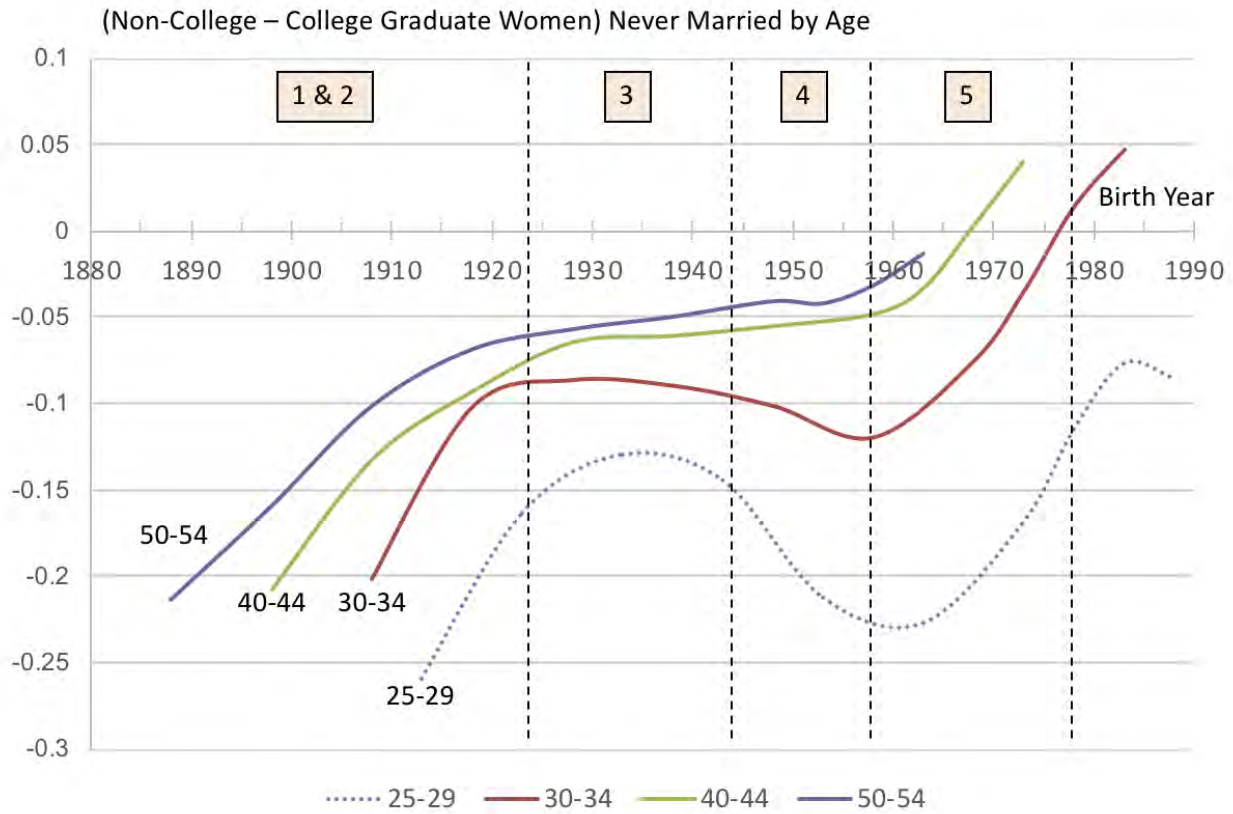
Figure 1A (ch2): Fraction Never Married by Age and Birth Year for White Women with No College



*Sources:* See Figure 2 (Ch2).

*Notes:* For consistency within the woman's birth group, these data include only native-born women and for consistency across birth groups the data include only white women. No college means that the individual did not indicate any grades or years beyond high school graduation.

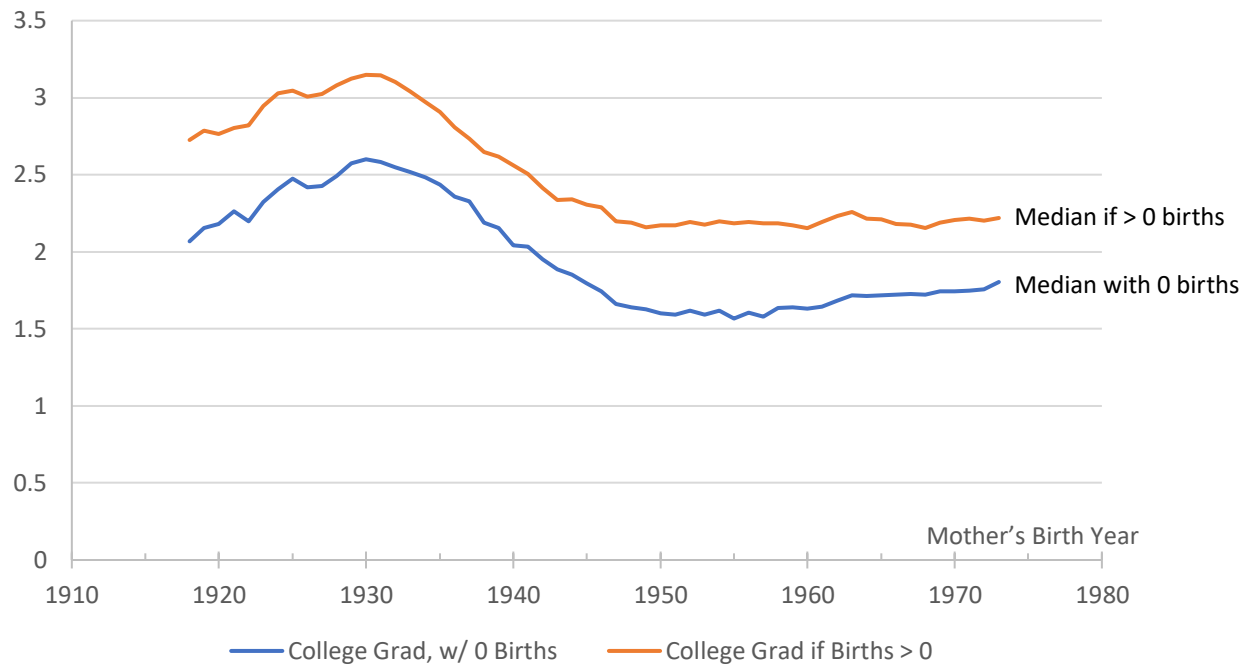
Figure 2A (Ch2): Difference in Fraction Never Married between College Graduate and Non-College White Women



Sources: See Figure 2 (Ch2).

Notes: Includes only white, native-born women.

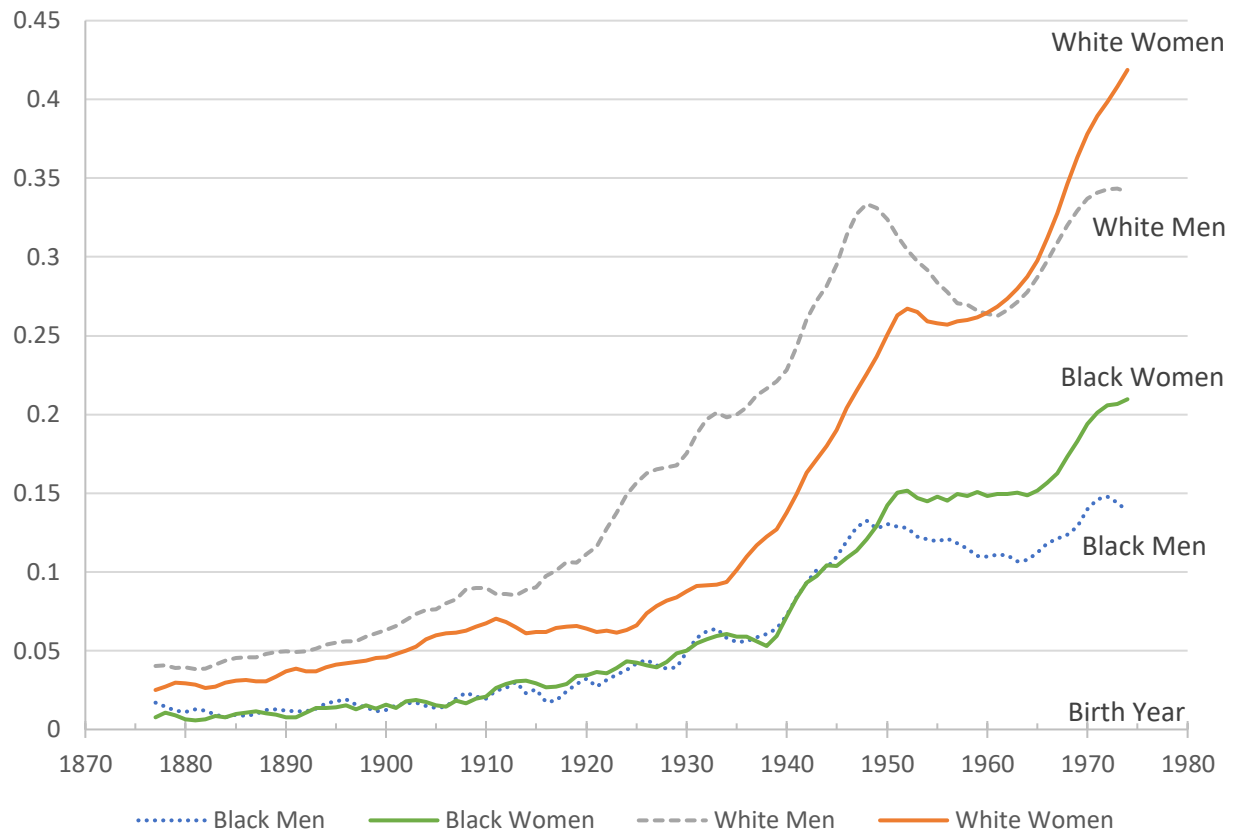
Figure 3A (Ch2): Median Number of Births to College Graduate Women



Source: CPS, June Fertility Supplement microdata.

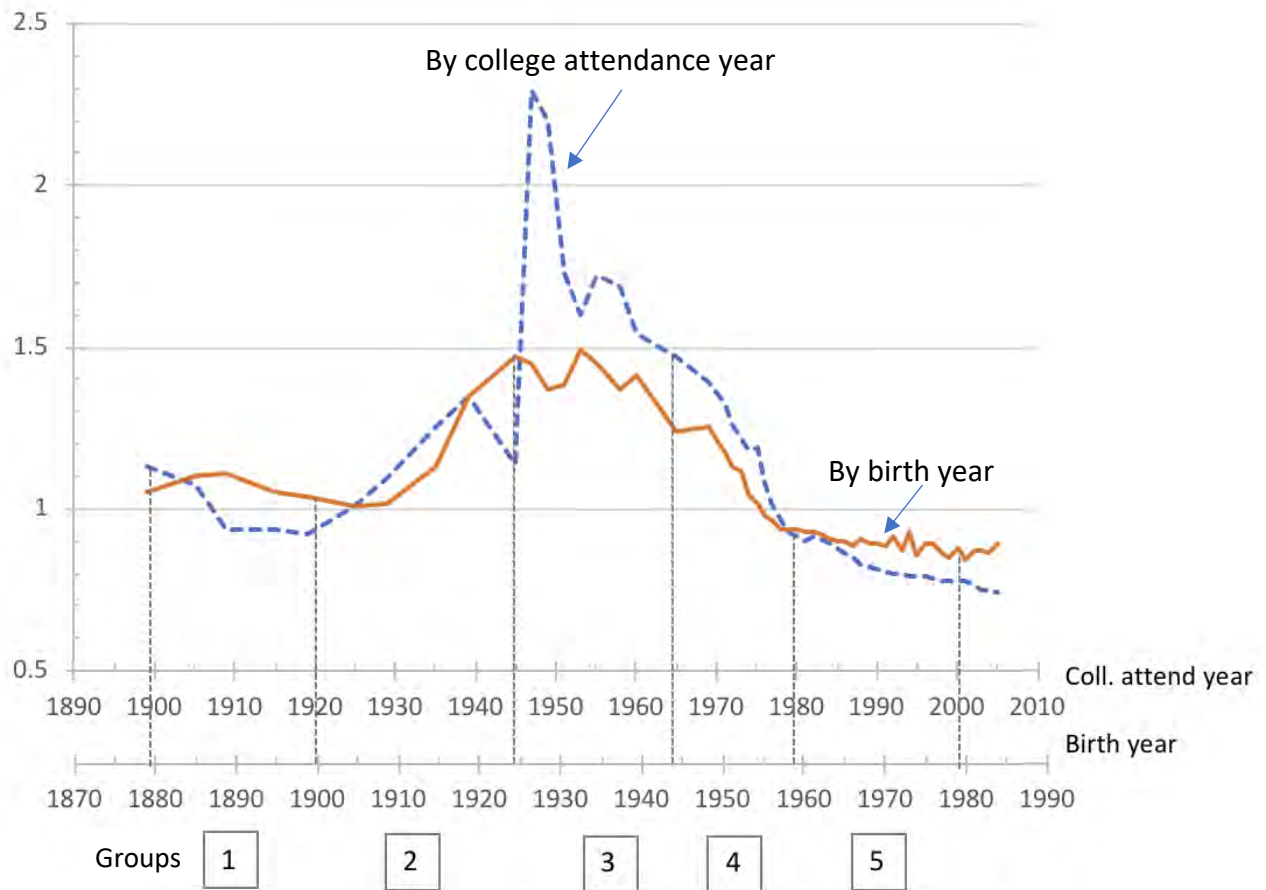
Notes: Data come from the question on the number of live births ever had. Births end with the women's birth year of 1974 because of the need to have full fertility histories for the birth mothers.

Figure 4A (Ch2): College Graduation Rates for Males and Females by Race (at Age Thirty)



*Sources and Notes:* 1940 to 2000 Censuses IPUMS and CPS MORG 2006 to 2016 microdata are used. The procedure is the same as in Goldin and Katz (2008, figure 7.1). The fractions of the native-born population who graduated college (or who completed at least four-years of college) by age thirty are given.

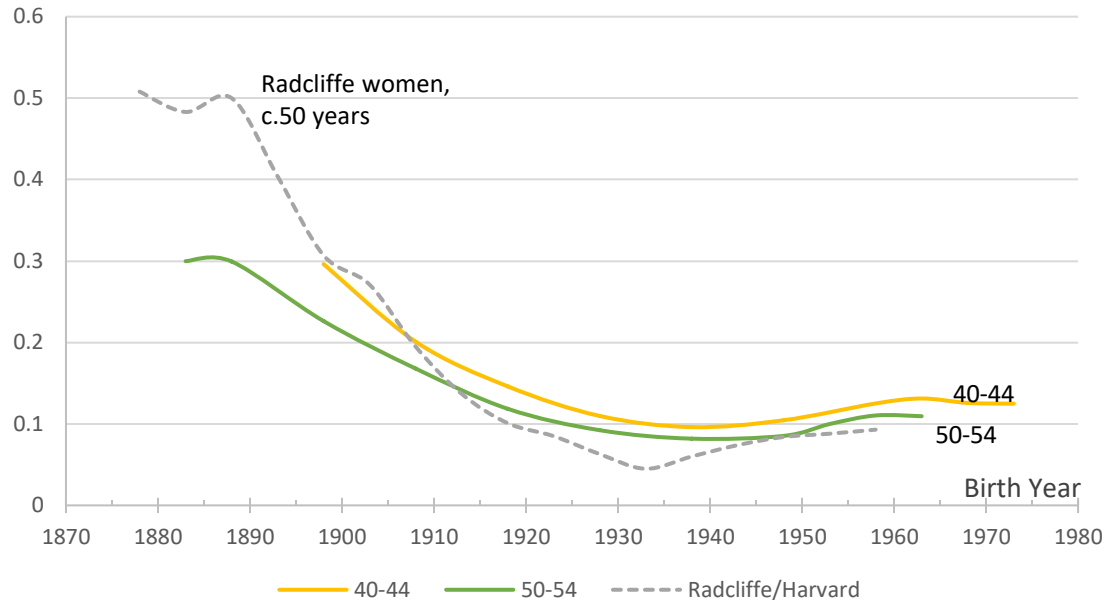
Figure 5A (Ch2): Ratio of Males to Females in College by College Attendance Year and Birth Year



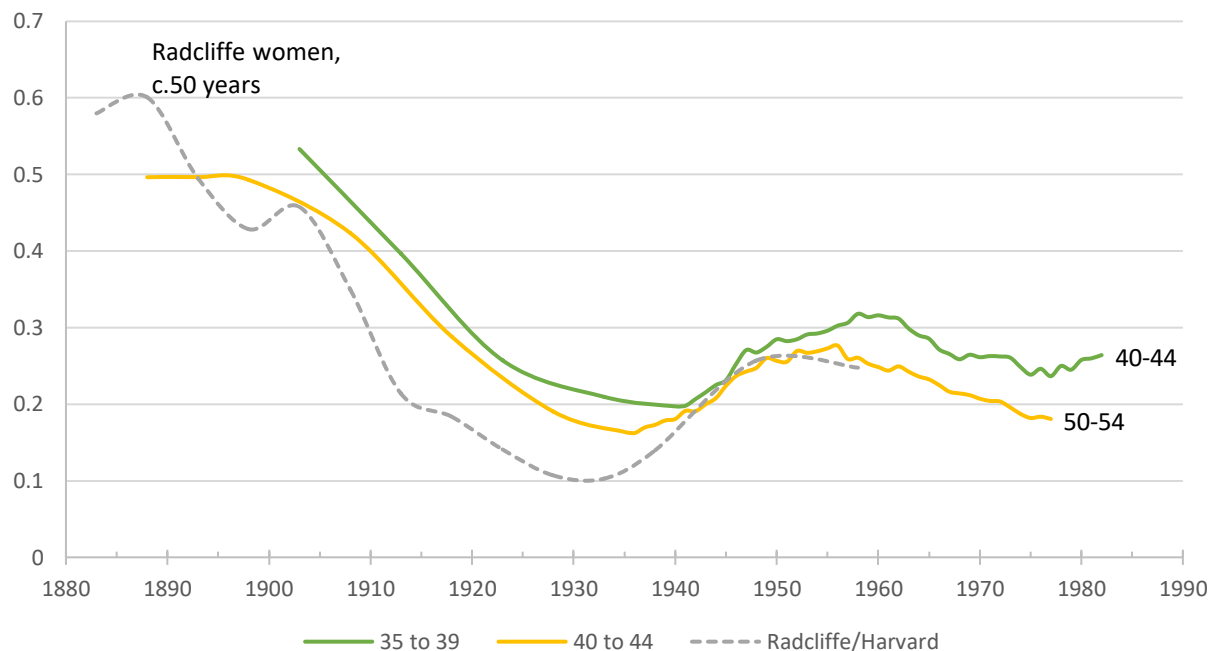
*Sources and Notes:* By birth year: See Figure 5 (Ch2). By college attendance year: Goldin (1997), figure 2.8 and subsequent US Department of Education, *NCES Digest of Education Statistics* issues. All undergraduate enrollments are included except for summer sessions.

Figure 6A (Ch2): Comparing Marriages and Births for Radcliffe/Harvard Graduates with All College Graduates

Part A: Fraction Never Married by Age and Birth Group for All College Graduate Women and Radcliffe/Harvard Graduates



Part B: Fraction with No Births by Age and by Birth Group for All College Graduate Women and for Radcliffe/Harvard Graduates



Sources: Figures 2 and 3. See also Appendix Ch3: Radcliffe Alumnae Questionnaire of 1928 and Ch5: Radcliffe College Centennial Survey, 1977. Notes: The marriage and childbearing rates for the Radcliffe/Harvard sample vary by age but are generally for women in their forties and fifties.

Table 1A (Ch2): Fraction of Male and Female College Students in Coeducational Institutions: 1897 to 1980

Year	All Students		Male Students		Female Students	
	Fraction Coed	Number of Schools	Fraction Coed	Number of Schools	Fraction Coed	Number of Schools
1897	0.557	432	0.538	384	0.603	303
1924	0.741	633	0.743	516	0.738	528
1934	0.730	698	0.726	561	0.736	603
1966	0.934	1,165	0.947	1,134	0.921	1,157
1980	0.984	1,403	0.996	1,370	0.972	1,394

*Source:* Goldin and Katz (2011, table 1). The 1934 statistics include first professional degree students for consistency with the 1897 and 1924 data.

## Chapter 3:

### Appendix (Ch3): Radcliffe Alumnae Questionnaire of 1928

The Radcliffe Alumnae Questionnaire was administered in 1928 in honor of Radcliffe's semi-centennial. It was designed to provide an overall profile of Radcliffe alumnae, with special attention to political involvement. The sample consists of women who had attended Radcliffe from its beginning in 1879 through the time of the survey. The 1928 survey, a self-administered questionnaire, was distributed by mail during the semi-centennial celebration of Radcliffe. It was sent to all alumnae, including women who had attended Radcliffe only temporarily. Responses were received from approximately 3,300 alumnae but includes special students, graduate students and those who transferred or did not graduate. About 1,900 Radcliffe BAs, who graduated from the 1880s to the 1920s, are included.

The questionnaire included items regarding careers, marriage and motherhood. Specific items dealt with the reasons for deciding to attend Radcliffe, an evaluation of the education received, educational and employment history, family and marital status, and attitudes toward combining motherhood and a career. Extensive questions regarding volunteer and political work were also included.

Note that the fractions “emphatically agreeing” with “career and marriage” being possible are only for those who “ever married.” In addition, the calculation treats a “no answer” as a negative.

This description of the Radcliffe Alumnae Questionnaire of 1928 Survey is revised from that by Barbara Miller Solomon for the data archive listing at the Henry A. Murray Research Center at Radcliffe. See Solomon (1989), “Radcliffe Alumnae Questionnaires of 1928 and 1944,” <https://doi.org/10.7910/DVN/R9L1U6>, Harvard Dataverse, V1, UNF:3:XKFjohfjBOn0bo6QJg7PYg== [fileUNF]. See also Solomon, (1985).



## Appendix (Ch3): Calculating the “Success” Matrix for Group One

To calculate the fraction of each birth group of college graduate women who attained “career” and “family,” I use evidence from various longitudinal samples, such as the Health and Retirement Study (HRS) and the National Longitudinal Survey of Youth, 1979 (NLSY79). But those data pertain to women born after 1930. Group One was born from around 1878 to 1897. The “success” matrix requires information on the fraction of women, by various ages, who achieved career and who had at least one child, plus the other elements of the matrix such as the fraction who achieved career and the fraction who had a child for the entire group.

I use information from *Notable American Women*. All women listed in *Notable* are assumed to have achieved a career. In fact, they achieved lofty careers. I also have aggregate data from the US Census of Population on the entire population of college graduate women who married and the fraction who ever had a child. The total fraction of college graduate women in Group One who had a child was 50 percent and the total fraction who ever-married was 70 percent. Among the Notables in Group One, the fraction who had a child was 31 percent and the fraction who ever married was 56 percent, both lower than among all college graduate women.

To construct the fraction of college graduate women with a career who also had a child as well as the fraction with a career who ever-married, the only information missing is the fraction of the total group who achieved career. All calculations are for women in their forties and fifties. That is, having a child is measured toward the end of the reproductive life. Being ever married is also measured at a somewhat late age. Although some first marriages occurred beyond that age, they barely change the fraction ever married.

By using the data from the Notables, it is clear that the fraction with a career *and* a child (or with a career and being married) is probably underestimated for the total group of college graduate women. Because of that, the fraction of the total having a career at some age will be chosen to be consistent with a less select sample.

In the HRS and NLSY79 data, the fraction of college graduate women in their fifties deemed to have a career was 18 percent for those born 1931-37 and rises to about 40 percent for those born in 1945-50. The computation method (described elsewhere) uses income earned over a period exceeding a level given by men of the same education and age.

I have made the bold, but reasonable, assumption that 30 percent of all members of Group One achieved a career by the time they were in their early fifties. The figure is

probably on the high side (the figure is higher than for the youngest group in the HRS data). But choosing an upper bound is appropriate to demonstrate that the fraction with career *and* family was fairly low.

By assuming that 30 percent of the total achieved a career by the time they were in their early fifties, we get the following matrices for children (meaning family) and career (and also for marriage and career), where the marginals for children and marriage come from the aggregate data from the US Census.

Career and Children				Career and Marriage			
No				No			
		Children	Children			Marriage	Marriage
No Career	29.3%	40.7%	70%	No Career	16.8%	53.2%	70%
Career	20.7%	9.3%	30%	Career	13.2%	16.8%	30%
		50%	100%			30%	100%

No marriage means never-married. Each entry in the matrix is the fraction of the group who attained one of the four possibilities. For example, 20.7 percent had a career but had no children, and 13.2 percent had a career but never married. The “marginals” give the total percentages. Therefore, 50 percent had no children for all in the group and 30 percent never married.

## Chapter 4:

Table 1A (Ch4): Fraction Married among Teachers by Age, Race, and Region

Age group	1920	1930	1940
	Black, South		
25 to 34	0.326	0.351	0.369
35 to 44	0.518	0.543	0.488
45 to 54	0.497	0.497	0.503
	White, South		
25 to 34	0.133	0.255	0.329
35 to 44	0.205	0.327	0.359
45 to 54	0.198	0.271	0.291
	White, North		
25 to 34	0.066	0.160	0.236
35 to 44	0.088	0.144	0.252
45 to 54	0.071	0.189	0.185

*Source:* 1920, 1930, 1940 Complete Count Microdata of the US Population Census.

*Notes:* In 1940, college-educated (not necessarily college graduate) women are used in the analysis because the occupation “teacher” also includes those who are “not elsewhere classified.” It thus includes school secretaries and building cleaners, who are assumed not to be college educated. The 1920 and 1930 censuses did not ask education, but “teacher” for those years includes only classroom teachers. Married is defined as currently married spouse present.

## Chapter 5:

Table 1A (Ch5): Fraction of Radcliffe Alumnae with Advanced Degrees by Graduation Year: 1900 to 1969

Graduation Years	Fraction with MD, PhD, etc.	Fraction with MA	Fraction with either MA or MD, PhD, etc.	Number of Observations
1900 to 1919	0.028	0.219	0.233	215
1920 to 1929	0.087	0.346	0.378	437
1930 to 1939	0.066	0.350	0.374	677
1940 to 1949	0.103	0.440	0.472	771
1950 to 1954	0.122	0.457	0.514	510
1955 to 1959	0.178	0.487	0.573	579
1960 to 1964	0.258	0.507	0.638	730
1965 to 1969	0.287	0.535	0.706	746

*Source:* Radcliffe College Centennial Survey, 1977. See Appendix to Chapter 5 below.

*Notes:* The Radcliffe College Centennial Survey included alumnae to 1977. Because the most recent graduates in that survey would not have had sufficient time to obtain an advanced degree, this tabulation includes only those who graduated before 1970.

Table 2A (Ch5): Fraction of Female Graduates in Selected College Majors by Year of College Graduation

Graduation Years	Humanities	Education	Home Economics	Sciences	Social Sciences	Business
1935-39	0.274	0.289	0.132	0.062	0.101	0.067
1940-44	0.278	0.302	0.103	0.071	0.116	0.057
1945-49	0.255	0.233	0.074	0.092	0.173	0.071
1950-54	0.220	0.369	0.068	0.061	0.132	0.056
1955-59	0.203	0.419	0.058	0.043	0.106	0.061
1960-64	0.214	0.431	0.035	0.061	0.109	0.048
1965-69	0.220	0.397	0.033	0.054	0.149	0.046
1970-74	0.204	0.373	0.025	0.051	0.190	0.045
1975-79	0.186	0.241	0.025	0.074	0.191	0.111
1980-84	0.181	0.159	0.021	0.072	0.169	0.206
1985-89	0.187	0.143	0.019	0.059	0.172	0.231
1990-94	0.215	0.144	0.007	0.059	0.189	0.228
1995-99	0.195	0.138	0.012	0.081	0.208	0.193
2000-04	0.207	0.126	0.009	0.081	0.209	0.199
2005-09	0.195	0.121	0.008	0.083	0.227	0.188
2010-14	0.164	0.095	0.006	0.089	0.237	0.201

*Sources:* National Survey of College Graduates (NSCG), 1993, 2003, 2010, 2013, and 2015.

*Notes:* Because the NSCG can be longitudinal, repeated observations of individuals are dropped so that respondents are counted only once. The final survey-specific weights are used for all calculations. The primary major during each respondent's first BA degree is used. Majors are grouped by type and aggregated by graduation year. Totals do not sum to 100 percent. Omitted majors are about 15 to 20 percent.

Table 3A (Ch5): Selected Demographic and Economic Features of Female College Graduates: Class of June 1957, Surveyed in January 1958 and 1964

	January 1958	1964
Family		
Ever married	0.40	0.85
Have children	0.10	0.66
Have children and currently married	0.25	0.78
Schooling		
B.A. Education major	0.34	
Teacher certificate at B.A. graduation	0.62	
M.A. 7-years after B.A.		0.15
Employment and school continuation		
Employed	0.82	0.49
Employed, not a student	0.69	0.40
Full-time	0.66	0.32
Part-time	0.03	0.08
Employed and a student	0.13	0.09
Student (not employed)	0.08	0.04
Seeking work	0.03	0.02
Not seeking work	0.07	0.45
Employed with at least one child < 6 years old <sup>a</sup>		0.26
Employed with at least one child 6-17 yrs. old <sup>b</sup>		0.90
Teacher, among the employed	0.59	0.60
Future employment		
Plans to have a career	0.18	0.27
Works only as necessary	0.06	n.a.
No plans to work in future	0.02	0.18
Husband opposes wife's working		
All currently married women		0.17
Wife works		0.04
Couple has children		0.21
Observations	5,978	4,930

*Sources:* US Department of Labor, Women's Bureau (1959, 1966). The original source provided only two significant digits.

<sup>a</sup> Includes all employed (full-time, part-time, and students who are employed) for the married women, husband-present group.

<sup>b</sup> 63 percent were full-time or part-time; 27 percent were employed students. This group is just 3 percent of the total sample.

n.a. = not asked in the survey for that year

Table 4A (Ch5): Selected Demographic and Economic Features of Female Graduates: Class of 1961 Surveyed in Spring 1961, 1962, 1963, 1964, and 1968

	Wave A (1961)	Wave B (1962)	Wave C (1963)	Wave D (1964)	Wave E (1968)
Were ever married	0.175	0.420	0.553	0.670	0.841
and have children		0.494	0.542	0.627	0.812
Plans for this coming fall					
Full-time career work	0.455				
Work but not career work	0.205				
Academic or academic + other	0.250				
Housewife	0.090				
Works full time		0.735	0.699	0.602	
Works >34 hours				0.544	0.516
Works part time		0.068	0.060	0.084	
If ever married and					
works full time		0.640	0.577	0.477	
works >34 hours				0.433	0.436
works part time		0.083	0.079	0.091	
If have children and					
works full time		0.480	0.390	0.272	
works >34 hours				0.238	0.321
works part time		0.104	0.090	0.101	
If works full time and married					
considers oneself also a "housewife"		0.366	0.310	0.364	
Majored in education	0.423				
of the ever-married	0.615	0.490	0.461	0.454	0.493
of the ever-married with children		0.506	0.476	0.469	0.505
Lists a current job field <sup>a</sup>		0.845	0.711	0.633	0.507
and has current job field "education" <sup>a</sup>		0.571	0.595	0.588	0.520
and has current job field "health" <sup>a</sup>		0.084	0.080	0.083	0.080
Lists any long-term job field <sup>a</sup>	0.929	0.857	0.858	0.793	0.767
long-term job field is "housewife" <sup>a</sup>	0.037	0.096	0.115	0.186	0.172
Number of observations (females)	11,952	11,136	10,479	8,254	1,778

<sup>a</sup> Current and long-term "job field" means that the respondent filled out a type of occupation. The residual occupation for women was generally "housewife." Respondents were instructed to use "housewife" only if they did not expect to work full-time until their children were grown.

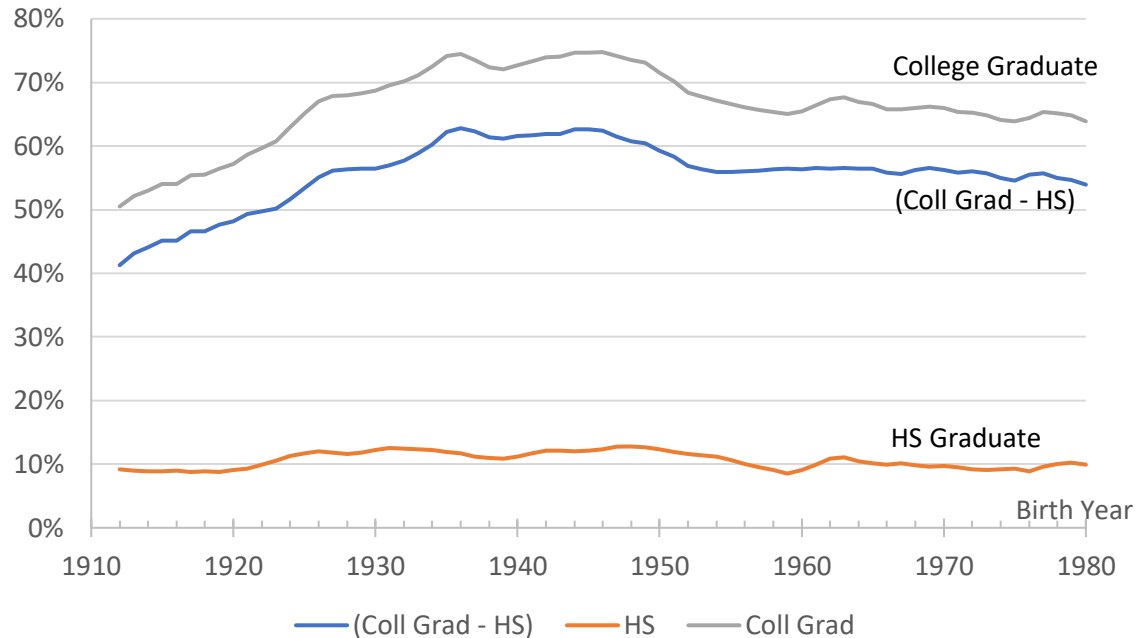
Source: Waves A through E of the *Great Aspirations* surveys. See Appendix: *Great Aspirations* Data.

*Notes:* Number of observations given is the maximum in the wave for women. Full-time is generally considered 35 hours or more. Individuals were asked if they worked “full-time” and, in another question, their usual hours. Empty cells indicate that the question was not asked in that wave. Note that Wave A was taken in Spring 1961, before graduation. All estimates use sample weights.

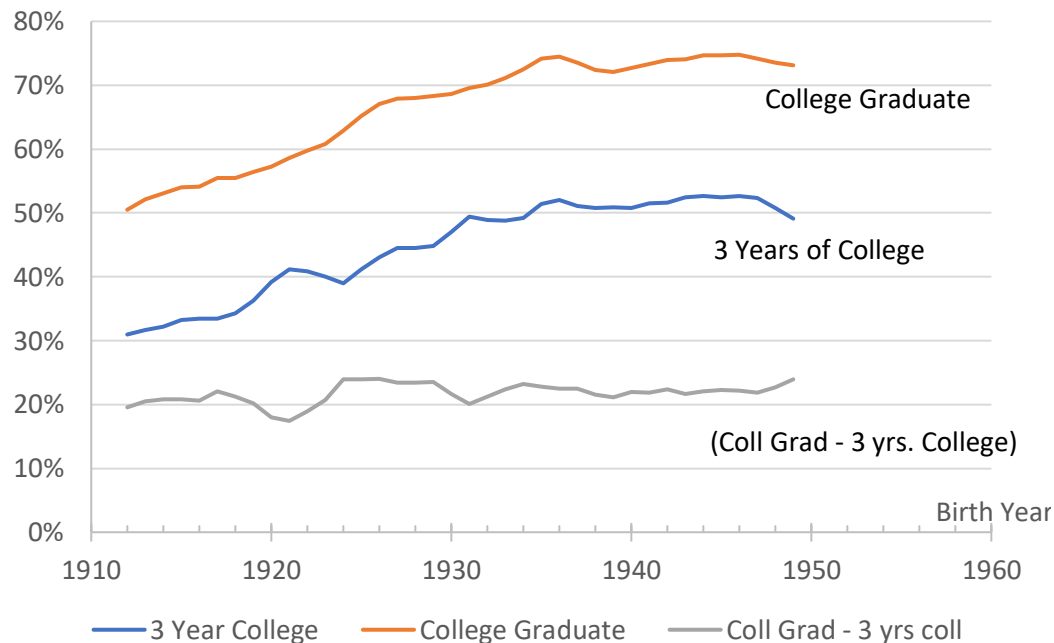


Figure 1A (Ch5): Percentage Marrying a College Graduate Man by Woman's Education for Married Women Born from 1912 to 1980

Part A: Percentage Marrying a College Graduate Man for Women with a College Degree versus Women with a High School Diploma



Part B: Percentage Marrying a College Graduate Man for Women with a College Degree versus Women with No More Than Three-Years of College



*Source:* US Censuses of Population, 1940 to 2000; CPS.

*Notes:* For groups born from 1931 to 1960, the 30-39 age group is used to determine a marriage match. Due to data limitations, for groups born up to 1930, the 40-49 age group is used. The US Population Census is used to 1961 and the CPS is used from 1962 to the last year shown. Part B can be computed only for groups born up to around 1950 because the precise number of college years are not provided for subsequent birth groups. Three-year centered moving averages are graphed.

## Appendix (Ch5): Women's Bureau 1957 Survey and 1964 Resurvey

Women's Bureau Bulletin no. 268 *First Jobs of College Women: Report of Women Graduates, Class of 1957*, is a report on a survey of about 6,000 female college graduates of the class of 1957 across 131 institutions, and no. 292 *College Women Seven Years after Graduation: Resurvey of Women Graduates, Class of 1957* is the 1964 follow-up survey for which about 5,000 of the original women responded (US Department of Labor, Women's Bureau 1959, 1966). The tabular material in the bulletins are mainly from each of the surveys separately and just one table in the 1966 publication cross tabulates the results.

To obtain longitudinal data, a sample of the surveys was collected from the National Archives and matched across the two years. The sample was collected in 1987 by a University of Pennsylvania graduate student working under my supervision. Because the National Archives kept the surveys in separate boxes, it was difficult to match all women who responded to both surveys but most could be matched.

Of the 993 surveys sampled from 1964, 749 were matched to surveys in 1957. The matching process was aided using respondent numbers on the survey forms. These data inform statements in the text about changes across the seven years by women's characteristics in 1957. In addition, all surveys from this group with comments written by the respondents were copied. The surveys are from Record Group #86, Boxes 739-767. See also Goldin (1990), Data Appendix.

## Appendix (Ch5): *Great Aspirations* Data

A version of the *Great Aspirations* data was kindly sent to me in 2000 by James A. Davis. It was a surprise gift that took me some time to decipher and even more years to use.

The dataset Davis sent had 4,868 observations. Spurred by his gift, I read Davis's book *Great Aspirations* (Davis 1964). I soon realized a number of things about the data. The first is that the data-gift was only a small part of a far larger and extremely useful data set. The second is that I could get the complete five waves of the larger data set and with a bit of hard labor make the full data set useable. The provenance of the data gift is a bit involved.

The data Davis shared with me are related to those he used in his 1964 book. That book used a representative subsample consisting of 3,397 responses to Wave A of the survey. The full sample of Wave A is about ten times as large. But that sample could not be analyzed in the 1960s due to computer limitations. Not only were the data used by Davis a small subset of the original in terms of respondents, but the 1964 volume used just the first wave of a five-wave survey. Portions of the other four waves were later used by several researchers, but none of these researchers used the full sample. These researchers used a fixed sample of individuals who had responded to all five waves. That is the data-gift that I received.

All five waves of the original data had fortunately been archived with the Interuniversity Consortium for Political and Social Research (ICPSR) as ICPSR 07344: "Career Plans and Experiences of June 1961, College Graduates," and my research assistant, Dev Patel, and I located them there. But, the original data were in ASCII form with no dictionary. To remedy that, we created a usable data set and a dictionary using the original questionnaires. I have added ICPSR 121481, which is an update to the original ICPSR data and is now usable to all researchers. The analyses using the *Great Aspirations* data reported in Chapter 5 were done using the original data for all five waves.

"Career Plans and Experiences of June 1961 College Graduates" is a panel study that surveyed college graduates in the Spring of 1961 (Wave A), 1962 (Wave B), 1963 (Wave C), 1964 (Wave D), and 1968 (Wave E). Each survey wave contains questions about career plans and goals, often compared with the graduate's original plans, as well as attitudes about career fields. Additionally, Wave D contains a supplement for female respondents that assesses attitudes toward family and career decisions. Wave E, done seven years after graduation, includes many questions on respondents' retrospective experiences of and satisfaction with their undergraduate institutions.

The initial sample was selected from college seniors intending to graduate in June

1961 from 135 colleges and universities in the US. The sample was selected using a two-stage probability sampling technique, in which colleges were selected from a group of eligible institutions and students were then selected from those colleges. All told, 41,116 individuals were selected to receive surveys.

These individuals continued to be sent surveys for Waves B, C, and D regardless of previous response. Thus, the sample contains individuals who responded in just one wave and some who responded in more than one wave. In the results presented in Chapter 5, I have checked for attrition bias by using a fixed sample between years or among years. The sample for Wave E was selected differently. It consists of 6,000 of the original group who completed surveys in all Waves A, B, C, and D, of whom 4,868 responded. That, by the way, was my original data-gift from James Davis.

National Opinion Research Center (NORC) was in charge of designing and implementing the survey. Each observation was given a survey weight by NORC. All results presented from the *Great Aspirations* data have been weighted.

In my use of the data, I dropped those who never responded in any wave, and used respondents only from accredited institutions including universities, liberal arts colleges, and teachers colleges. The final sample is 35,527 respondents, who form an unbalanced panel. The number of respondents in each wave of the sample is given below.

The data set in ICPSR, known as “07344-0001-Data,” contains 41,116 observations and responses (or non-responses) for Waves A, B, C, and D, as well as variables added later, such as response profiles, school information, indices constructed from survey responses, and recodes of survey questions. An additional data set, known as “07344-0002-Data,” contains 4,868 observations with responses for Waves A, B, C, D, and E. For the respondents who completed Wave E, these data contain all the information from “07344-0001-Data,” plus the Wave E responses and variables added later.

Sample Sizes for the Five Waves of the *Great Aspirations* Data  
for Respondents from Universities, Liberal Arts Colleges, and Teachers Colleges

	All Waves	Wave A	Wave B	Wave C	Wave D	Wave E
All respondents	35,527	32,092	29,438	28,188	23,146	4,615
Female respondents	13,086	11,952	11,136	10,479	8,254	1,778

## Appendix (Ch5): Radcliffe College Centennial Survey, 1977

As part of its Centennial celebration in 1977, Radcliffe College undertook a comprehensive survey of the life experiences of its alumnae. A questionnaire was designed to collect information about their personal background, college experiences, and subsequent marital, educational, and employment histories.

The survey was sent to more than 13,000 women who had attended the college as undergraduates and graduates from the classes of 1900 to 1975. More than 6,000 women completed and returned the questionnaire, giving a response rate of 48 percent. For individual classes response rates ranged from 29 to 76 percent. Most respondents had begun Radcliffe as first-year students and continued through their senior year. Others had received only part of their college education at Radcliffe. The sample is more than 97 percent Caucasian.

The survey was divided into two parts and both were sent in the same mailing. Topics covered in part one include: paid and volunteer work during adulthood; salary; educational history; accomplishments and distinctive titles and awards earned; career counselling received; current involvement with Radcliffe alumnae and activities; if married, husband's education, work, and salary. Part two included questions about undergraduate experiences at and satisfaction with Radcliffe; family background and expectations about education; marital history and children; career history, including interruptions in work and detailed history of positions held. The survey also solicited the women's attitudes about women and education, volunteer work and paid jobs.

The data set has 6,023 observations, 5,569 of which list a graduation year (see the table below for the distribution of graduation years). I received the data from the Henry A. Murray Research Center in 1993. In 2009 the Murray Center sent me an revised and more complete version that included a group of respondents I discovered were missing from the original version for particular graduation years.

This data description was taken largely from that written by Matina Souretis Horner for the data archive listing at the Henry A. Murray Research Center at Radcliffe. Matina S. Horner was the sixth president of Radcliffe College and served from 1972 to 1989. See also Solomon (1985).

### Radcliffe College Centennial Survey Respondents by Graduation Years

Graduation Years	Observations	Fraction of total
1900 to 1919	215	0.039
1920 to 1929	437	0.079
1930 to 1939	677	0.122
1940 to 1949	771	0.138
1950 to 1954	510	0.092
1955 to 1959	579	0.104
1960 to 1964	730	0.131
1965 to 1969	746	0.134
1970 to 1977	904	0.162
All graduation years	5,569	1.000

## Chapter 7:

### Appendix (Ch7): Career and Family Success

To measure the degree to which women achieved a career and a family requires a definition of each. I created a definition of career using information about the person's employment history and earnings. The definition is related to the notion that a career is achieved across an extended period and involves (labor) earnings that exceed some level.

Family is defined as having a child (when possible including the adoption of an infant or young child).<sup>1</sup> Many individuals achieve family fulfillment in other ways, by having close relatives, friends, a loving partner, or a pet.

Earnings are not the only measure of a career and in many cases do not equal the impact one has on others or the person's own perception of accomplishment. The earnings level that is used is not a very high one. Being in the labor force for an extended period, for some of the Groups, produces similar results. What makes the criterion difficult to achieve is that it must be obtained for several closely-spaced years. It is more of a road race than a sprint. But it is less of a marathon since the earnings standard that will be set will not be that high. In fact, it will be approximately the same as that earned by the median working woman.

I use two extensive longitudinal datasets that allow me to estimate career and family success for both female and male college graduates born from 1931 to 1964 across their lives.

In earlier work (Goldin 1997, 2004), I estimated the career and family success of college graduate women in their late thirties to early forties. Those studies could not provide evidence on the progression of women throughout their lifecycle because the dataset, the NLSY79, did not yet have respondents who were old enough.<sup>2</sup> The NLSY79 respondents are now old enough to track to their fifties.

In the current estimates, I use the Health and Retirement Study (HRS) linked to

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<sup>1</sup> Children are included who enter a woman's life when they are sufficiently young so that the woman can be presumed to have expended considerable time in their development.

<sup>2</sup> My work on career and family was criticized for not considering the career achievements of older women (Ferber and Green 2003). There were two reasons for the deficiency in my earlier studies. The first is that there were no data on older women in the cohorts I was considering since they were not yet old enough. The second, and more substantive, reason is that I was mainly interested in the achievement of family and career for women around age forty. I can now respond to Ferber and Green's justifiable criticism.



Social Security Administration records to track the success of the women of Groups Three and Four to their early fifties, and I provide data for a comparable group of college graduate men.

In all the estimates, I employ a career criterion that involves earning above the 25<sup>th</sup> percentile of the full-time, full-year distribution for males in the same age bracket and education level. The male earnings data were obtained from the Current Population Survey (CPS) for the relevant year.<sup>3</sup> The earnings of a man at the 25<sup>th</sup> percentile is about equal to the earnings of the median female in most years.

To be deemed successful at a career, the income level had to be exceeded for some number of consecutive years (or nearby years if the survey were biennial). Thus, a college graduate woman 40-44 years old would be deemed to have a career if she earned at least as much as a college graduate man 40-44 years old who was at the 25<sup>th</sup> percentile in the male distribution. Since the respondents in the NLSY79 were surveyed every other year a respondent would be interviewed three times in a five year interval. Given that, she would be deemed to have a career if she exceeded the level two out of the three possible interviews.

I employ approximately the same definition using the Health and Retirement Study linked to Social Security Administration (and W-2) earnings data (Goldin and Katz 2018). The annual income data that have been linked to the HRS are annual, whereas the NLSY79 data are biennial. Therefore, one difference is that I define “career” in the HRS as meeting the earnings condition for at least three years in each five-year period. There is no overlap in birth Groups for the NLSY79 and the version of the HRS available at the time of this writing.

An important virtue of the HRS data is that the earnings data are highly accurate since they come from Social Security and W-2 records (after 1977).<sup>4</sup> One potential complication is that because many college graduate women were teachers, they would not be covered by Social Security and their earnings would not be available. States and localities had the option of providing separate pension benefits and their public servants were often exempt from Social Security taxes and benefits. The use of the W-2 forms after

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<sup>3</sup> Earning at the 25<sup>th</sup> percentile for men means that women earned about at the female median. See Goldin (1997, table 2.4) for a comparison of the hourly earnings (weekly earnings/ usual hours worked per week) of males and females in the CPS from 1980 to 1991. The male at the 25<sup>th</sup> percentile is about equal to the median female in most years and at most 6 percent less in the other years.

<sup>4</sup> Because the Social Security earnings records and related W-2 forms do not have information on the earnings of the foreign born and because the HRS does not have the year of immigration, I use only native-born individuals in the HRS.

1977 obviates this problem, but these data do not exist for all years and cohorts. In the analysis presented here, the affected birth cohort-age groups are the 1931-37 birth cohorts to age 44 and the 1938-44 birth cohorts to age 39.

In using the HRS, I divide the sample for convenience into four birth groups from 1931 to 1957. The earliest two of the birth groups map into an “early” Group Three (born 1931-37) and a “later” Group Three (born 1938-44). More recent birth cohorts map into an “early” Group Four (born 1945-50) and a “later” Group Four (born 1951-57).<sup>5</sup>

Another complication concerns fertility information in the HRS. For the 1951-57 Group Four in the HRS, 79.9 percent of college graduate women claim to have had at least one biological child by age 50 whereas for the 1957-64 NLSY79 cohort 71.8 percent claim to have had a child by age 39 to 46 years. HRS women were not supposed to include “step” children and it is not clear what accounts for the difference. To correct for the possible overstatement of births in the HRS, I have substituted the total cohort fertility rates from the June Fertility Supplements of the CPS for the HRS birth groups in the final calculations of career and family success.

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<sup>5</sup> The child variable is the same for each respondent from ages 35 to 54. Most women would have had a child by age 35, although for a small fraction the child variable could increase. One can view these data as giving success at career and eventually at family.

## Appendix (Ch7): Harvard and Beyond Project

The Harvard and Beyond Project provides detailed information on the education, career, and family transitions of thirteen classes of Harvard/Radcliffe College students. The survey was done with the cooperation of, and funding from, Harvard University president Lawrence H. Summers. See Goldin and Katz (2008a).

The project surveyed the entering classes of 1965 to 1968 (most of whom graduated from 1969 to 1972), 1975 to 1978 (graduating 1979 to 1982), and 1985 to 1988 (graduating 1989 to 1992). Individuals who entered with these classes, or transferred to Harvard, or who did not graduate on time were also included. In addition, women from the class of 1973 were included. Administrative data from transcripts were added. Because these were not in electronic form prior to the mid-1980s, these were coded from originals in the Harvard University Registrar's Office. More than 6,500 replies to the survey were received.

## Chapter 8:

### Appendix (Ch8): American Community Survey (ACS) Occupations and O\*NET Sample

#### General Issues:

The analysis in Goldin (2014) on gender earnings ratios by occupation and the relationship of gender differences in earnings to O\*NET occupational characteristics was updated and expanded.

The ACS samples used to produce gender earnings gaps by occupation includes the eight ACS surveys 2009 to 2016. The sample for BAs was increased from 1.163 million to 3.251 million and that for the full-time worker sample was increased from 0.965 million to 2.762 million. The O\*NET data were also updated and come from the October 2017 release of Database 22.1. Following Goldin (2014), individuals with missing occupations or who were in the military are excluded, as are those younger than 25 and older than 64. Full-time and full-year are defined as working 35 hours/week and more than 40 weeks/year. Occupations with fewer than 25 men or women are excluded.

The cleaning of the earnings variables is as follows. In dropping wages that are too low, the federal minimum wage was updated to \$7.25 for 2010 and later. The same exclusion as in Goldin (2014) is used to drop those whose wages were less than a reasonable minimum ( $1400 \text{ hours} \times 0.5 \times \text{federal minimum wage}$ ). Top-coded earnings were set equal to:  $1.5 \times \text{the state-year specific top-codes for both the business income variable and the salary and wages variable}$ .

In Goldin (2014), a \$60,000 cut-off was used to determine the analysis occupations. Here, a cut-off is created for consistency with definition of “career” used in Chapter 8. The average (mean) college graduate full-time male salary and wage earnings within each occupation using survey weights is used. The 25<sup>th</sup> percentile of these average incomes was used, and all occupations above that cut-off are the current focus. The 25<sup>th</sup> percentile is \$64,960, or slightly higher than imposed in Goldin (2014).

Occupations using the 2010 ACS designation are merged to a crosswalk from the Bureau of Labor Statistics with SOC 2010 codes, correcting by hand the relatively small number of discrepancies that remain using the occupation title. Just three ACS occupations cannot be matched that are above the 25<sup>th</sup> percentile. They are each in the “all other” categories. Together, they constitute a mere 0.57 percent of all full-time BA observations.

The ratio of mean annual wages or salaries for all women to all men is 0.693, and the ratio of the medians is 0.764. When business and farm earnings are included as well, the corresponding ratios are 0.665 and 0.733. Restricting to college graduates yields a mean ratio for wages of 0.662 and a median of 0.718, with 0.624 and 0.733 the equivalent figures including business and farm income. These estimates are similar to Goldin (2014).

For the full-time BA sample, occupations with fewer than 25 full-time BA men or women are dropped, and occupations are cleaned slightly to merge with O\*NET using occupation variable “occ2010” for ease of merging. The occ2010 variable is standardized to 2010 and contains 493 categories. It has the advantage of being consistent across time, and has the best chance of projecting O\*NET scores across occupations whose exact definitions may have changed slightly since 2009.

#### Regressions:

The regression is run on all individuals (college graduates, employed full-time, full-year). It contains a quartic in age, dummies for race, ACS year, education above a BA, (log) usual weekly hours worked, (log) usual weeks worked, dummies for all occupations, a female dummy, and interactions of female and the occupation dummy. The coefficient on female  $\times$  occupation provides the residual gender earnings ratio. The correct standard errors are computed.

#### O\*NET Characteristics:

Each O\*NET score is standardized—which were already scaled to 100—to have a mean of zero and a standard deviation of one across the occupations. The coefficients on occupation from these regressions (for all BAs and by age, above or equal to 45 years old and below 45) are then merged with the O\*NET characteristics by occupation.

There are often more O\*NET occupations using the “occ2010” codes than there are using the ACS occupations. But these are easily matched because the “O\*NET soc” code adds another set of digits to the “occ2010” code. For example, Logisticians in the ACS are given “occ2010” code = 13-1081. But there are three 13-1081 occupations in the “O\*NET soc” codes. In addition to Logisticians (13-1081.00), there are Logistics Engineers (13-1081.01) and Logistics Analysts (13-1081.02). I have taken a simple average of the O\*NET occupations having the identical main “occ2010” code.

The data set for all BAs working full-time and full-year contains 143 different ACS occupations divided into 12 sectors. I mainly use 115 occupations in 10 sectors (excluding “Other” and “Arts & Media”). The occupations, with each of their industry-sectors, are given in Table 1A (Ch8) below.

Table 1A (Ch8): ACS Occupations and Industry Groupings

	Occ Soc 2010	ACS Occupation	Industry
1	5000	First-line supervisors of office and admin support workers	Admin
2	5110	Billing and posting clerks	Admin
3	5120	Bookkeeping, accounting, and auditing clerks	Admin
4	5150	Procurement clerks	Admin
5	5230	Credit authorizers, checkers, and clerks	Admin
6	5240	Customer service representatives	Admin
7	5410	Reservation and transportation ticket agents and travel clerks	Admin
8	5600	Production, planning, and expediting clerks	Admin
9	5630	Weighers, measurers, checkers, and samplers, recordkeeping	Admin
10	500	Agents and business managers of artists, performers, and athletes	Business
11	520	Wholesale and retail buyers, except farm products	Business
12	530	Purchasing agents, except wholesale, retail, and farm products	Business
13	540	Claims adjusters, appraisers, examiners, and investigators	Business
14	565	Compliance officers	Business
15	600	Cost estimators	Business
16	630	Human resources workers	Business
17	700	Logisticians	Business
18	710	Management analysts	Business
19	725	Meeting, convention, and event planners	Business
20	740	Business operations specialists, all other	Business
21	800	Accountants and auditors	Business
22	810	Appraisers and assessors of real estate	Business
23	820	Budget analysts	Business
24	830	Credit analysts	Business
25	840	Financial analysts	Business
26	1000	Computer scientists & systems/network sys. analysts/web devel.	CompMath
27	1010	Computer programmers	CompMath
28	1020	Software developers, applications and systems software	CompMath
29	1050	Computer support specialists	CompMath
30	1060	Database administrators	CompMath
31	1105	Network and computer systems administrators	CompMath
32	1200	Actuaries	CompMath
33	1220	Operations research analysts	CompMath
34	1240	Misc. math science occs, incl. mathematicians and statisticians	CompMath
35	1300	Architects, except naval	Engineer
36	1320	Aerospace engineers	Engineer
37	1350	Chemical engineers	Engineer
38	1360	Civil engineers	Engineer

39	1400	Computer hardware engineers	Engineer
40	1410	Electrical and electronics engineers	Engineer
41	1420	Environmental engineers	Engineer
42	1430	Industrial engineers, including health and safety	Engineer
43	1450	Materials engineers	Engineer
44	1460	Mechanical engineers	Engineer
45	1520	Petroleum, mining and geological engineers, incl. mining safety	Engineer
46	1530	Miscellaneous engineers, including nuclear engineers	Engineer
47	1550	Engineering technicians, except drafters	Engineer
48	850	Personal financial advisors	Finance
49	860	Insurance underwriters	Finance
50	900	Financial examiners	Finance
51	910	Credit counselors and loan officers	Finance
52	930	Tax examiners and collectors, and revenue agents	Finance
53	940	Tax preparers	Finance
54	950	Financial specialists, all other	Finance
55	3030	Dietitians and nutritionists	Health
56	3050	Pharmacists	Health
57	3110	Physician assistants	Health
58	3150	Occupational therapists	Health
59	3160	Physical therapists	Health
60	3220	Respiratory therapists	Health
61	3230	Speech-language pathologists	Health
62	3245	Other therapists, including exercise physiologists	Health
63	3255	Registered nurses	Health
64	3300	Clinical laboratory technologists and technicians	Health
65	3320	Diagnostic related technologists and technicians	Health
66	3410	Health diagnosing and treating practitioner support technicians	Health
67	3500	Licensed practical and licensed vocational nurses	Health
68	3535	Miscellaneous health technologists and technicians	Health
69	3540	Other healthcare practitioners and technical occupations	Health
70	3600	Nursing, psychiatric, and home health aides	Health
71	10	Chief executives and legislators	Manage
72	20	General and operations managers	Manage
73	30	Managers in marketing, advertising, and public relations	Manage
74	100	Admin services managers	Manage
75	110	Computer and information systems managers	Manage
76	120	Financial managers	Manage
77	130	Human resources managers	Manage
78	140	Industrial production managers	Manage
79	150	Purchasing managers	Manage
80	160	Transportation, storage, and distribution managers	Manage
81	205	Farmers, ranchers, and other agricultural managers	Manage

82	220	Construction managers	Manage
83	230	Education administrators	Manage
84	300	Architectural and engineering managers	Manage
85	310	Food service managers	Manage
86	350	Medical and health services managers	Manage
87	360	Natural sciences managers	Manage
88	410	Property, real estate, and community association managers	Manage
89	420	Social and community service managers	Manage
90	430	Misc managers, incl funeral service manag., postmasters, mail super.	Manage
91	2100	Lawyers, and judges, magistrates, and other judicial workers	MDs&JDs
92	3000	Chiropractors	MDs&JDs
93	3010	Dentists	MDs&JDs
94	3040	Optometrists	MDs&JDs
95	3060	Physicians and surgeons	MDs&JDs
96	3250	Veterinarians	MDs&JDs
97	4700	First-line supervisors of retail sales workers	Sales
98	4760	Retail salespersons	Sales
99	4800	Advertising sales agents	Sales
100	4810	Insurance sales agents	Sales
101	4820	Securities, commodities, and financial services sales agents	Sales
102	4840	Sales representatives, services, all other	Sales
103	4850	Sales representatives, wholesale and manufacturing	Sales
104	4920	Real estate brokers and sales agents	Sales
105	1600	Agricultural and food scientists	Science
106	1610	Biological scientists	Science
107	1650	Medical scientists, and life scientists, all other	Science
108	1720	Chemists and materials scientists	Science
109	1740	Environmental scientists and geoscientists	Science
110	1760	Physical scientists, all other	Science
111	1800	Economists	Science
112	1820	Psychologists	Science
113	1840	Urban and regional planners	Science
114	1910	Biological technicians	Science
115	1920	Chemical technicians	Science
116	2600	Artists and related workers	Other
117	2630	Designers	Other
118	2700	Actors	Other
119	2720	Athletes, coaches, umpires, and related workers	Other
120	2750	Musicians, singers, and related workers	Other
121	2810	News analysts, reporters and correspondents	Other
122	2825	Public relations specialists	Other
123	2840	Technical writers	Other
124	2850	Writers and authors	Other



125	2900	Broadcast & sound engin techs & radio oper & media & comm equip.	Other
126	2920	Television, video, and motion picture camera operators and editors	Other
127	2145	Paralegals and legal assistants	Other
128	2160	Miscellaneous legal support workers	Other
129	2200	Postsecondary teachers	Other
130	2340	Other teachers and instructors	Other
131	2550	Other education, training, and library workers	Other
132	3700	First-line supervisors of correctional officers	Other
133	3710	First-line supervisors of police and detectives	Other
134	3740	Firefighters	Other
135	3820	Detectives and criminal investigators	Other
136	3910	Private detectives and investigators	Other
137	4320	First-line supervisors of personal service workers	Other
138	6200	First-line supervisors of construction trades and extraction workers	Other
139	7000	First-line supervisors of mechanics, installers, and repairers	Other
140	7700	First-line supervisors of production and operating workers	Other
141	9000	Supervisors of transportation and material moving workers	Other
142	9030	Aircraft pilots and flight engineers	Other
143	9040	Air traffic controllers and airfield operations specialists	Other

*Notes:* MDs includes all regardless of specialty (e.g., surgeon, dermatologist).

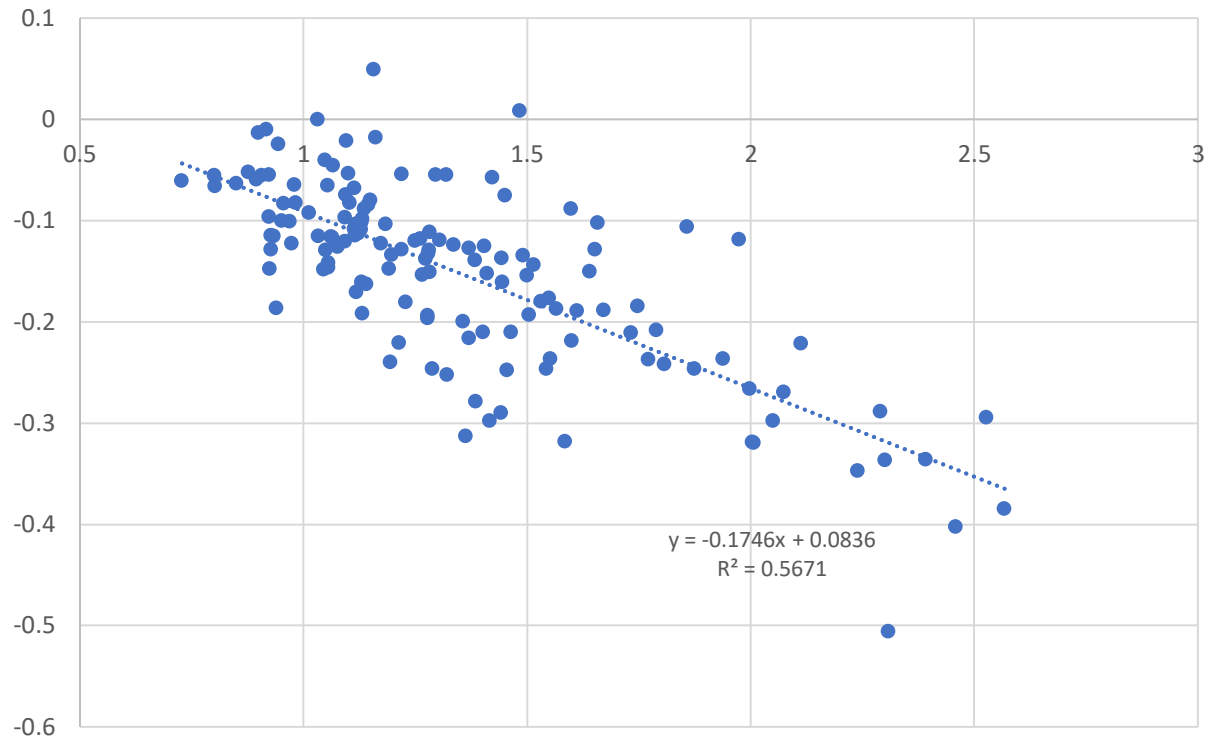
Table 2A (Ch8): O\*NET Values and Gender Earnings Ratios

Sector	Five O*NET Charac- teristics	Compete O*NET Charac- teristic	Log Gender Earnings Ratio or Coefficient	Five O*NET (Weighted) Charac- teristics	Compete O*NET (Weighted) Charac- teristic	Log Gender Earnings Ratio or Coefficient (Weighted)
Engineering	-0.726	0.185	-0.072	-0.683	0.160	-0.066
Science	-0.709	0.007	-0.076	-0.693	0.092	-0.094
Health	0.318	-0.788	-0.102	0.564	-0.648	-0.100
CS-Math	-1.028	-0.006	-0.131	-0.896	0.246	-0.130
Business	0.364	0.532	-0.119	0.241	0.412	-0.143
Manage	0.339	0.068	-0.184	0.452	0.300	-0.211
Admin	0.295	-1.117	-0.218	0.273	-1.017	-0.213
Sales	0.622	1.195	-0.236	0.437	0.609	-0.216
Finance	-0.040	0.126	-0.242	-0.153	0.547	-0.264
MDs, JDs	0.631	0.196	-0.258	0.664	0.209	-0.301

*Sources:* See Appendix (Ch8): American Community Survey (ACS) Occupations and O\*NET Sample.

*Notes:* Occupations are ordered here by the size of the weighted coefficients (gender earnings ratios) from the smallest (least negative) to the largest (most negative). “Five O\*NET” is the mean of the five O\*NET characteristics normed so that the means are 0 and the standard deviations are 1. “Compete” is an O\*NET characteristic that measures how competitive the occupation is. It is similarly normed. Weights are the total number of workers in each of the occupations comprising the sector. For the full list of occupations in each sector see Table 1A (8)ch. CS = computer science.

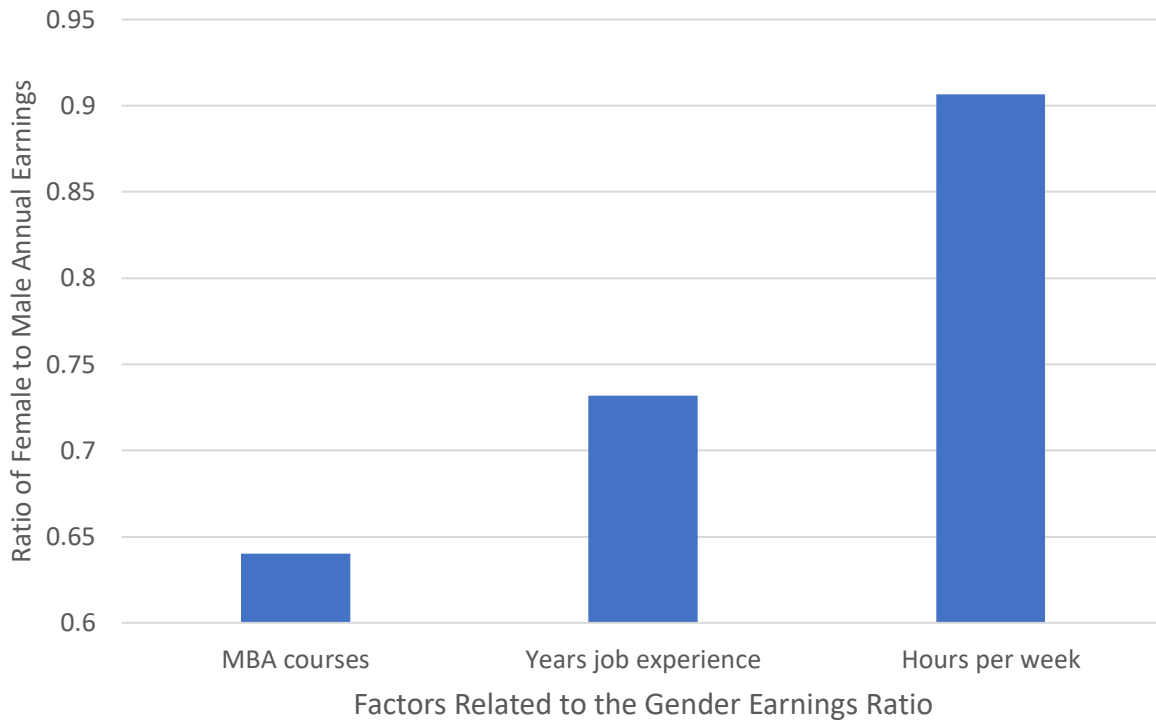
Figure 1A (Ch8): Earnings Inequality and the Gender Earnings Gap



*Sources:* ACS 2009 to 2016. See Appendix (Ch8): American Community Survey (ACS) Occupations and O\*NET Sample.

*Notes:* Each marker is one of 143 occupations. The vertical axis is the coefficient giving the residual gender earnings ratio. The horizontal axis is the 90-10 male earnings inequality, that is the annual earnings of a male worker at the 90<sup>th</sup> percentile divided by that of a male worker at the 10<sup>th</sup> percentile. The statistic is generally computed, as it is here, as the log of the earnings at the 90<sup>th</sup> percentile minus the log of the earnings at the 10<sup>th</sup> percentile. The earnings used are the residuals from the earnings regression described in the Appendix.

Figure 2A (Ch8): Ratio of Female to Male MBA Annual Earnings around 13 Years (10 to 16 years) since MBA Receipt



*Source:* See Bertrand, Goldin, and Katz (2010).

*Notes:* By year 13 is meant a year between 10 and 16 post MBA. Each set of factors is sequentially added to the regression, along with the cohort graduation year. “MBA courses” also includes pre-MBA factors such as undergraduate GPA, GMAT score, and pre-MBA work experience. MBA factors include grades and the fraction of courses taken in finance. “Years job experience” adds a variable giving years employed post-MBA, subtracting no-work periods exceeding six months. “Hours per week” adds the number of hours worked per week in the year.

## Chapter 9:

### Appendix (Ch9): *National Pharmacy Workforce Surveys*

The National Pharmacist Workforce Surveys were collected in three years: 2000, 2004, and 2009. The Midwest Pharmacy Workforce Research Consortium designed the project and conducted the surveys. Tabulations are contained in three reports (Midwest Pharmacy Research Consortium 2000, 2005, 2010).

The primary purpose of the surveys was to collect reliable information on demographic and work characteristics of the US pharmacist workforce. The project obtained information from a nationally representative sample of pharmacists. The survey questionnaire covers employment status and situation (working or not, setting, position, years employed and in current position), compensation and hours worked, future work plans, and individual demographic background information.

2000: Data for 2000 were collected from a random sample of 5,000 licensed pharmacists. The overall response rate (subtracting surveys that were undeliverable) was 46 percent (2,250/4,895) and the net useable response rate was 43 percent (2,092/4,895).

2004: Data for 2004 were collected from a random sample of 6,000 pharmacists. The principals randomly chose 5,000 from this list and retained a hold-back sample of 1,000. To compensate for initial bad addresses, a replacement sample of 435 pharmacists was randomly chosen from the hold-back group. Usable forms were received from about 1,500 for a response rate of about 34 percent. The survey design was almost identical to that in 2000.

2009: Questions comprising each section of the 2009 survey were taken from previous workforce surveys and most of the items used for the 2009 survey also were used in 2000 and 2004. The initial size of the group was smaller in 2009 but better methods were employed to obtain a higher response rate. A randomly selected sample of 3,000 names yielded about 2,667 with usable addresses. Surveys from almost 1,400 pharmacists were returned or about a 51 percent response rate.

One of the survey principals, Jon Schommer, and a graduate student merged the three surveys and created a data set with largely consistent variables. Schommer made the data available to me in 2011 and I cleaned it further. Most of the analyses in Goldin and Katz (2016) that use these data aggregate the survey information across years.

## Appendix (Ch9): *University of Michigan Law School Alumni Survey Research Database*

The University of Michigan Law School Alumni Survey Research Dataset includes alumni surveys from 1967 to 2006 for persons graduating from 1952 to 2001 together with administrative data on each alumnus. The surveys were sent to graduating classes 5, 15, 25, 35, and 45 years after receiving their JD. The survey was meant to be a set of repeated cross-sections done at the fifth, fifteenth, and twenty-fifth years after receiving the JD. Because so many alumni filled out the survey at each of these milestones, a longitudinal data was assembled.

The information used here primarily is from the longitudinal data linking individuals from years five and fifteen. Graduation years from 1982 to 1991 are used because of the paucity of female graduates for prior graduation years. In the data on hours and earnings, only those who worked more than nine hours per week in the given year are analyzed.

Wood, Corcoran, and Courant (1993) use an earlier form of the cross-sectional Michigan data. Noonan, Corcoran, and Courant (2005) use the more recent longitudinal samples. The University of Michigan alumni surveys are still ongoing. Researchers wanting to use these data are encouraged to contact the University of Michigan Law School Alumni Survey Project: [https://repository.law.umich.edu/alumni\\_survey/](https://repository.law.umich.edu/alumni_survey/)

Table 1A (Ch9): Earnings Equations for JDs: University of Michigan Law School Alumni Survey, Longitudinal Sample

	Dependent variable: Log (annual earnings)						Log (hourly fee)	
	Year 5			Year 15			Year 15	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.100 (0.0262)	-0.0375 (0.0240)	-0.0158 (0.0228)	-0.549 (0.0498)	-0.215 (0.0456)	-0.130 (0.0455)	-0.00345 (0.0366)	0.0302 (0.0368)
Log (hours per week)		0.757 (0.0497)	0.563 (0.0521)		1.34 (0.0758)	1.162 (0.0814)	0.442 (0.0541)	0.312 (0.0589)
Log (weeks per year)		0.522 (0.0771)	0.331 (0.0752)		0.846 (0.123)	0.711 (0.120)		
Years in current job			0.0423 (0.00615)			0.0251 (0.00394)		0.00886 (0.00280)
Years not employed by year t			-0.379 (0.0545)			-0.0406 (0.0274)		-0.0683 (0.0253)
Years part-time by year t			-0.244 (0.0339)			-0.0533 (0.0115)		-0.0263 (0.00854)
Time off, BA to law school			-0.0283 (0.00800)			-0.0649 (0.0145)		-0.0257 (0.0107)
Dummy variables								
Law school performance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Missing job experience	No	No	Yes	No	No	Yes	No	Yes
Missing weeks per year	No	Yes	Yes	No	Yes	Yes	No	No
Constant	11.5 (0.0161)	6.35 (0.329)	8.00 (0.340)	12.2 (0.0296)	3.70 (0.487)	4.78 (0.504)	3.94 (0.213)	4.41 (0.231)
Observations	1,449	1,449	1,448	1,299	1,299	1,298	695	694
R squared	0.0747	0.245	0.332	0.129	0.359	0.408	0.238	0.287

*Notes:* Regression sample includes individuals working > 9 hours per week in the given year. Law school performance includes law school GPA at graduation and whether on law review. Sample for cols. (7) and (8) is restricted to those working in law firms who reported an hourly fee. Weights are the inverse of the predicted values from a probit regression on whether the survey was returned using a set of predetermined variables such as law school GPA. Standard errors are in parentheses.

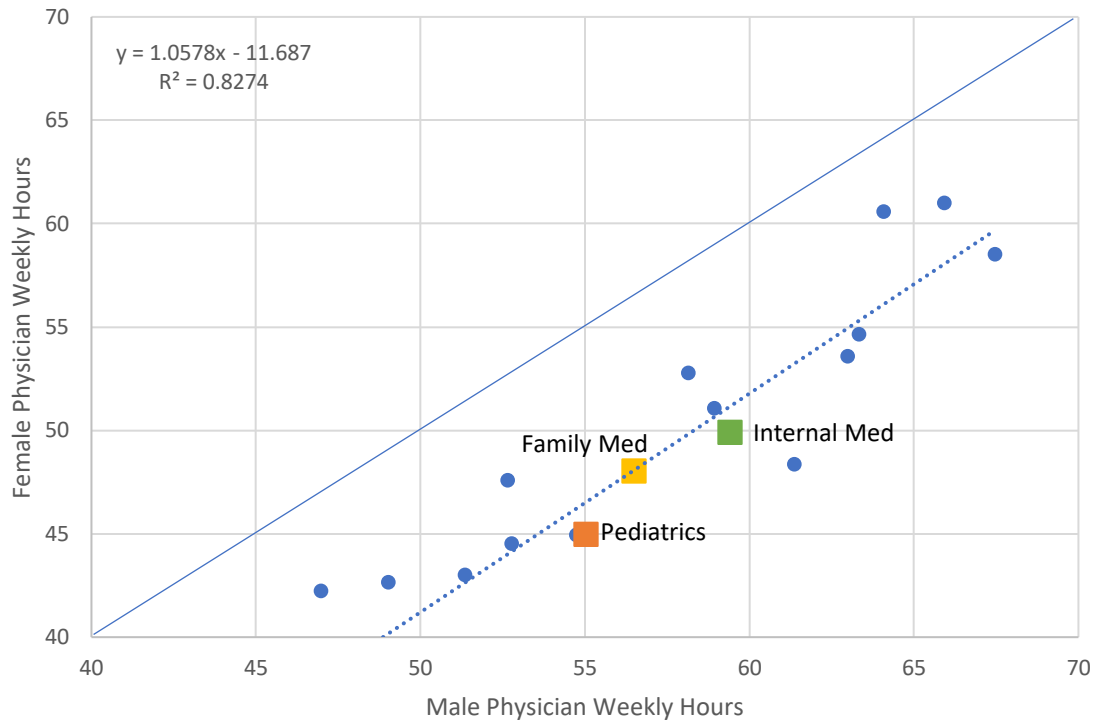
*Source:* University of Michigan Law School Alumni Survey Research Dataset, Longitudinal Sample for individuals graduating from 1982 to 1991 who returned both the five-year and the fifteen-year surveys.



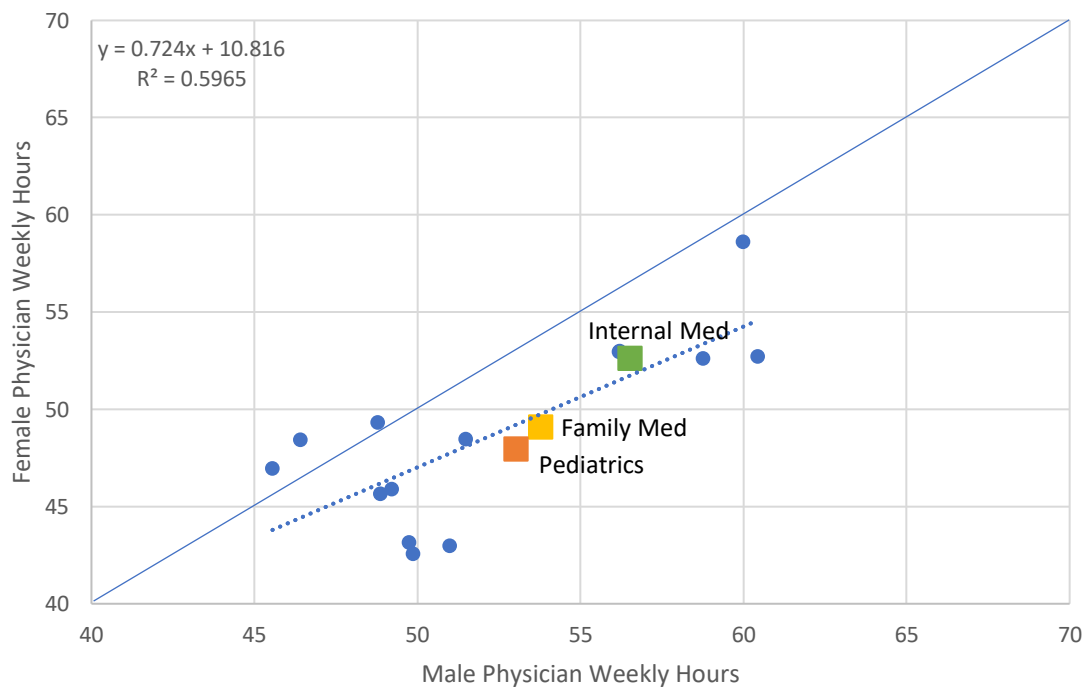
## Chapter 10:

### Appendix Figure 1A (Ch10): Physician Hours by Specialty, Sex, and Age

#### Part A: Physicians 45 Years and Younger



#### Part B: Physicians Older than 45 Years

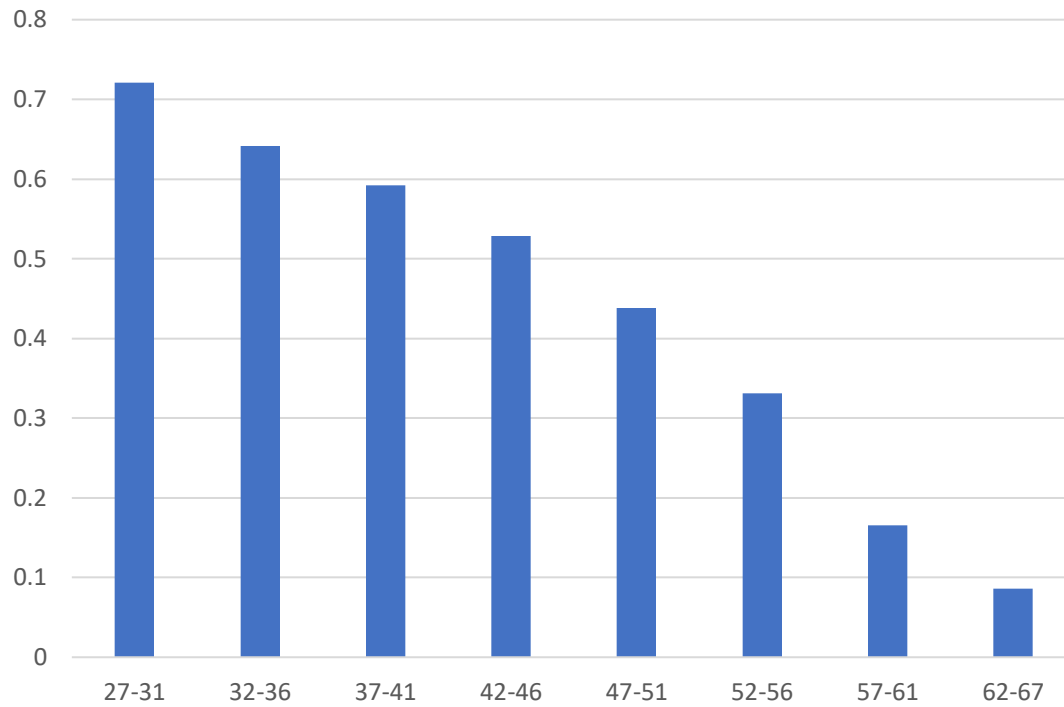


*Source:* Community Tracking Survey (CTS, restricted use version), 1996 to 2008.

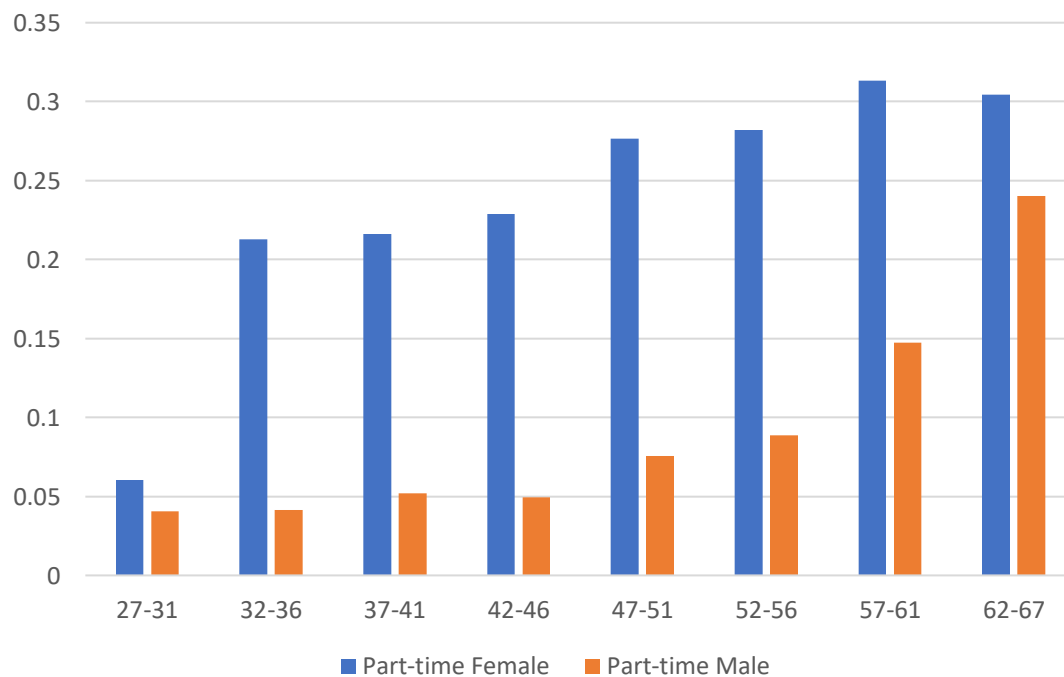
*Notes:* The horizontal axis gives the mean hours per week for male physicians in a specialty and the vertical axis gives the mean hours per week for female physicians in a specialty. Each dot or square is a medical specialty with at least 20 women in the CTS sample. The three largest specialties are given by squares. Weekly hours per respondent is restricted to be between 20 and 100. Weeks worked per year must exceed 39. The dark line in each graph is the 45 degree line. If hours worked by specialty were equal by gender, the dots would lie approximately on the 45 degree line. The actual dots for the younger physicians lie around on a line that is almost parallel to the 45 degree line but is shifted down by around nine hours.

## Appendix Figure 2A (Ch10): Veterinarian Fraction Female, Part-Time, and Owner by Age Group

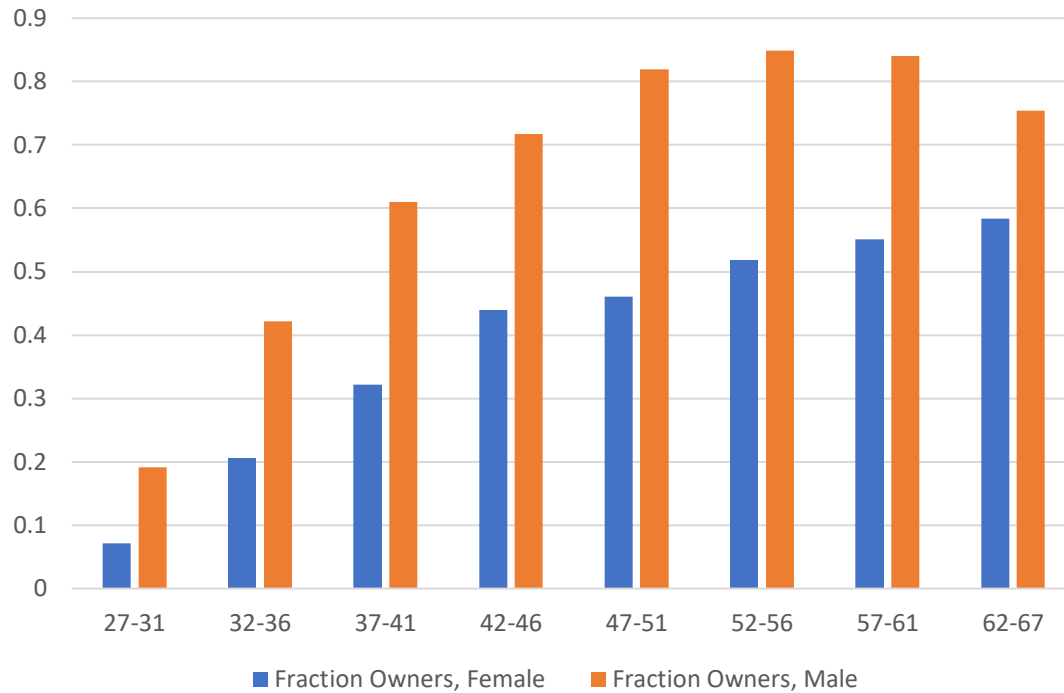
### Part A: Fraction Female by Age Group



### Part B: Fraction Part-Time among Private Practice Veterinarians by Age Group



### Part C: Fraction Owners among Private-Practice Veterinarians by Age Group



*Source:* American Veterinary Medical Association Survey, 2007 and 2009

*Notes:* Part-time is less than 35 hours per week, including both regular and emergency hours, for veterinarians in private practice. The fractions are almost identical to the self-defined part-time employment question in the survey. Owners are those in private practice who state they are owners and who list an equity stake.

## Appendix (Ch10): Community Tracking Study, Restricted Use Version

The Community Tracking Study (CTS), a project of the Center for Studying Health System Change (HSC), is a large-scale investigation of the US health system sponsored by The Robert Wood Johnson Foundation (RWJF). The Physician Survey portion of the CTS interviewed physicians in the 60 CTS sites and a supplemental national sample of physicians. There are four waves of the CTS physician survey: 1996, 1998, 2000, and 2004. In 2008, it was replaced by the HSC Health Tracking Physician Survey. Only the first four waves have detailed income data. The merged data contain almost 50,000 observations.

Physician characteristics available include sex, age, race, Hispanic origin, year of MD, detailed specialty, hours, weeks, earnings, ownership, practice type, career satisfaction, and geographic place. Highly-detailed information exists on the physician's practice and aggregate patient characteristics. There are no personal demographic information concerning marital status and children. The data are cross-sectional but have a longitudinal component since some physicians were interviewed in multiple waves. Specialties without a patient base, such as those in radiology and anesthesiology, are not included since the purpose of the study was to track physicians and their patient communities. The data can be obtained from ICPSR. A restricted use version contains detailed physician specialties and income.

Table 1A (Ch10): Physicians and the Gender Earnings Gap

	Dependent variable: Log(Annual Income)			
	(1)	(2)	(3)	(4)
Female	-0.408*** (-64.78)	-0.323*** (-52.48)	-0.244*** (-42.38)	-0.203*** (-34.74)
ln(Hours)		0.560*** (63.58)	0.464*** (55.52)	0.427*** (49.70)
ln(Weeks)		-0.886*** (-18.12)	-0.544*** (-12.17)	-0.515*** (-11.66)
Years since MD 1-9				-0.0234 (-1.60)
Years since MD 10-19				0.120*** (8.70)
Years since MD 20-29				0.166*** (12.01)
Years since MD 30-39				0.0712*** (4.96)
Primary care provider				-0.177*** (-20.87)
Full Owner				0.107*** (14.94)
Part Owner				0.191*** (32.94)
Salaried				-0.0316*** (-5.73)
Constant	12.21*** (2320.86)	13.41*** (71.08)	12.45*** (72.37)	12.40*** (72.77)
Fixed Effects:				
Year	Y	Y	Y	Y
Physician Specialty	N	N	Y	Y
Number of observations	39,055	39,055	39,055	35,187

*t*-statistics in parentheses \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

*Sources:* Community Tracking Study (CTS), restricted use version.

*Notes:* The CTS has four years (1996, 1998, 2000, 2004) with detailed income data. Omitted time since MD is 40 plus years. Hours worked per week are between 20 and 100; weeks worked per year is  $\geq 40$ ; and the implied hourly wage is  $\geq \$20$ . There are 31 physician specialties.

## Appendix (Ch10): American Veterinary Medical Association (AVMA) Data for 2007 and 2009

The American Veterinary Medical Association (AVMA) dataset contains both cross-sectional and retrospective information on veterinary training, practice hours, income, position, specialty, years in service, and clinic ownership by sex as well as by other demographic and geographic characteristics for 8,340 veterinarians in 2007 and 2009. The data were obtained from the American Veterinary Medical Association (see AVMA 2007, 2009). These data are collected biennially and researchers are encouraged to contact the AVMA for these and more recent versions of the survey. Because the total number of active veterinarians in the nation is relatively small (probably around 60,000), the more usual sources, such as the Current Population Survey (CPS) and even the decennial census, do not yield sufficient information. In addition, the usual data sets do not have information on training, specialty, and ownership, among other variables contained in the AVMA survey.

Table 2A (Ch10): Veterinarians and the Gender Earnings Gap

	Dependent variable: Log(Annual Income)				
	(1)	(2)	(3)	(4)	(5)
Female	-0.332*** (-23.08)	-0.227*** (-16.84)	-0.222*** (-17.49)	-0.203*** (-16.17)	-0.167*** (-13.44)
ln(Hours)			0.541*** (35.67)	0.517*** (34.35)	0.476*** (32.07)
ln(Weeks)			0.579*** (27.50)	0.562*** (27.34)	0.551*** (27.45)
Yrs since DVM	0.0427*** (20.93)	0.0456*** (24.07)	0.0379*** (21.16)	0.0350*** (19.59)	0.0267*** (14.70)
Yrs since DVM squared $\times 10^{-2}$	-0.0896*** (-17.88)	-0.0862*** (-18.32)	-0.0702*** (-16.00)	-0.0648*** (-14.92)	-0.0508*** (-11.74)
Any time off				-0.100*** (-6.87)	-0.0825*** (-5.77)
Boards				0.194*** (9.90)	0.216*** (11.29)
Residency				0.0970*** (4.48)	0.0963*** (4.56)
Internship				0.00814 (0.49)	0.00330 (0.20)
ln(Equity)					0.0588*** (13.15)
Own					-0.443*** (-8.44)
Missing equity					0.600*** (11.00)
Constant	11.36*** (446.50)	11.30*** (481.57)	7.041*** (74.67)	7.196*** (77.29)	7.379*** (80.82)
R <sup>2</sup> (adjusted)	0.180	0.229	0.385	0.424	0.453
Number of obs.	7,181	5,945	7,181	7,041	7,041

t-statistics in parentheses \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

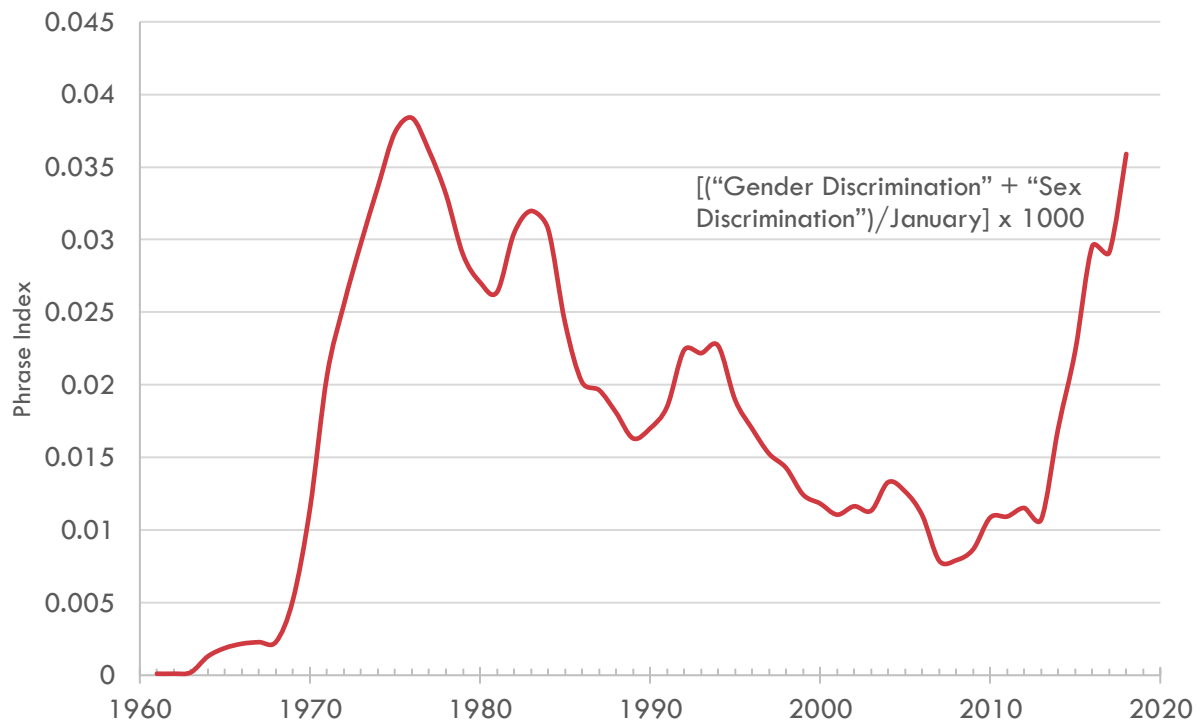
Source: American Veterinary Medical Association (AVMA) Survey, 2007, 2009

Notes: In all regressions, controls include community size and year of survey. Col. (2) is for full-time, full-year workers. Cols. (4) and (5) also include dummy variables for whether the veterinarian worked government, industry, or academia (omitted group is private practice). Hours is total and includes regular and emergency hours. ln(Equity) = 0 for 0 equity and missing equity value. Own = 1 if veterinarian claims ownership. Missing equity = 1 if ownership was claimed but no value was given. Age < 70 years.



## Epilogue

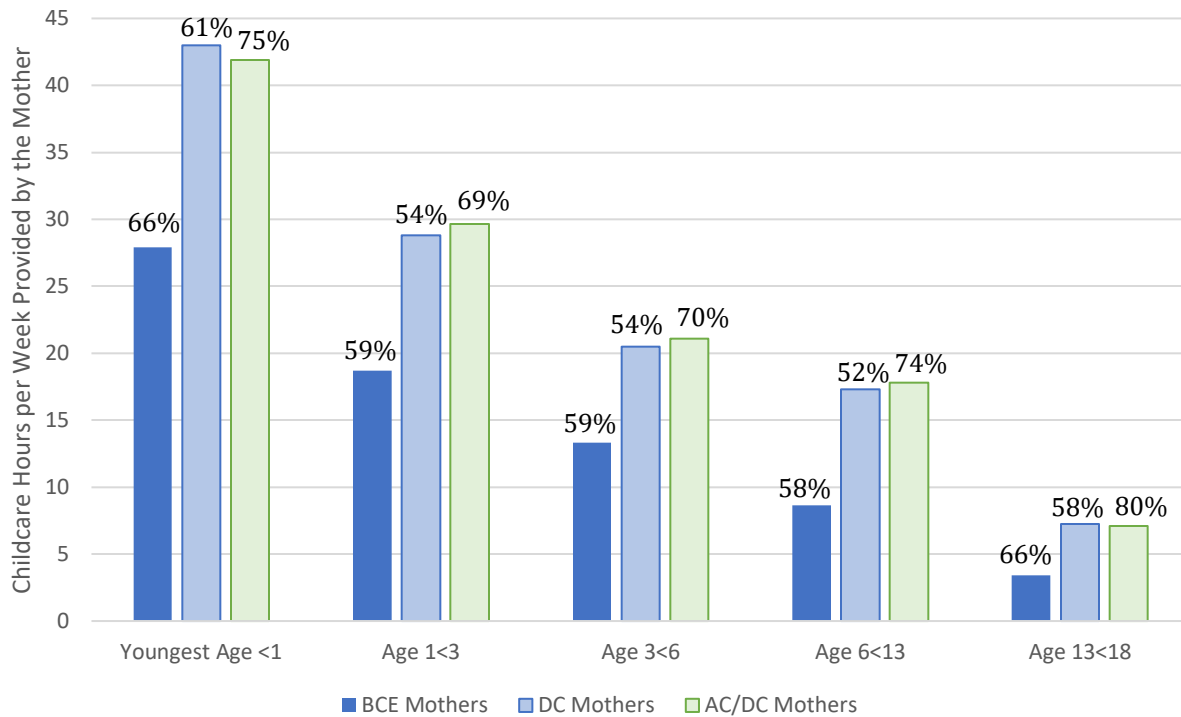
Appendix Figure 1A (Epilogue): Gender Discontent: *New York Times* Phrase Searches, 1960 to 2019



*Notes:* Author's *The New York Times* searches, using quotation marks to search for phrases, scaled by counts of the (neutral) word January to account for changes in the size of the newspaper.

## Appendix Figure 2A (Epilogue): Childcare Hours of College-Educated, Employed Mothers with College-Educated, Employed Husbands by the Age of Their Youngest Child

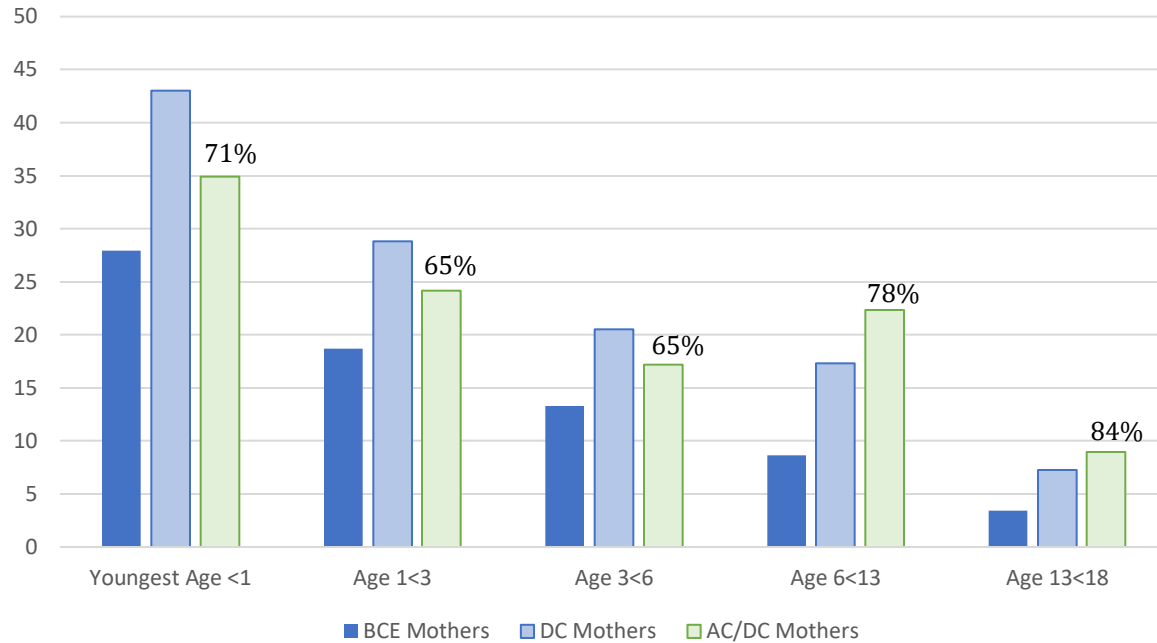
Part A: AC/DC Total Parental Hours Are Equally Split for All Child Age Groups, between BCE and DC Total Hours



Sources: BCE Mothers: ATUS, 2010-2019; DC: Andrew, et al. (2020).

Notes: BCE = Before Corona Era; DC = During Corona; AC/DC = After Corona and During Corona. BCE hours come from a sample of women in the ATUS who were currently employed, college graduates with at least one child less than 18 years old and a husband who was also a college graduate and currently employed. Daily childcare amounts are multiplied by seven. All days of the week are included. Numbers above the bars are the fraction of total childcare hours provided by the mother. DC hours are estimated by increasing BCE hours by 1.54 for mothers and 1.9 for fathers, which are the ratios from Andrew et al. 2020) and then adding four additional hours per week (per parent) when the youngest child is age 6<13 and two hours when the youngest is 13<18. AC/DC hours for the couple are the average of BCE and DC hours, but fathers are given only BCE childcare hours under the assumption that they are back at work full-time. Mothers are assumed to be doing the rest of the childcare.

## Part B: AC/DC Total Parental Hours Are Not Equally Split for All Child Age Groups, between BCE and DC Total Hours



*Sources and Notes:* See Part A. All assumptions are the same, except that in the AC/DC period those with a youngest child ages 0 to 4 have total parental hours one-quarter the way between the BCE and DC levels, thus closer to the lower BCE levels, but that those with a youngest child age 5 to 17 have total parental hours three-quarters of the way, thus closer to the higher DC levels. These assumptions reflect the reality that, for much of the period from September 2020 to March 2021, many daycare centers were open while many public schools were not. The percentages given on top of the green bars are the fraction of total childcare time provided by the mother. The fractions for the blue bars are the same as in Part A.

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