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CAREER CONTINUITY OF FEMALE COLLEGE GRADUATES: CAPITALIZING UPON EDUCATIONAL INVESTMENTS

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Career Continuity of Female College Graduates: Capitalizing Upon Educational Investments

Abstract

Factors affecting the capitalization upon undergraduate training and continuity in the pursuit of sex-atypical careers of women are examined utilizing longitudinal data collected by the National Opinion Research Center from 1961 through 1968 on 1,685 females who received undergraduate degrees in 1961. The estimation of causal models in which career involvement and sex-atypicality of career field are specified to be a function of previous career involvement, educational preparation, marital status and timing, and the support of atypical career involvement from socially relevant significant others provides the basis for an investigation of the ways in which marital and family commitments and constraints inhibit the pursuit of atypical careers among women.

Recent changes in women's labor force participation patterns have been widely reported by demographers (Oppenheimer 1970, 1973; Sweet 1973) and other social scientists (Kavanaugh 1974; Herman and Kuczynski 1974). With more working young wives and mothers with and without husbands present than ever before (Retert and Bumpass 1974), relative numbers of females in the professions have curiously declined. Theodore reports:

> The relative position of professional women, both with respect to total employed labor force in general and to employed females in particular, has consistently declined over the past few decades. This decline occurs at both the professional and semi-professional levels. (Theodore 1971).

Very recent changes in numbers of females in less traditional professional fields, due to heavy recruiting which is in part a function of Title VII of the Civil Rights Act of 1964 and Title IX of the 1972 Education Amendment, have altered only slightly Theodore's conclusions. Only marginal increases in professional and managerial occupational strata were clearly in evidence in 1970 (U.S. Bureau of the Census 1963, 1973), and this trend remains uninterpreted.

To investigate the extent to which women will capitalize upon their educational investments one must first document changes in factors which affect their continuation in professional careers, and second document changes in the meaning of involvement with a professional career. To do so one must have a baseline with which to compare contemporary evidence. This paper is a presentation of baseline evidence.

Demographic factors such as age at first marriage, occurrence and number of children, and years of schooling are easily documented, whereas the "meaning" of involvement with a professional career is more

elusive. Becker's (1963) theory of involvement with deviant careers can account for the phenomenon of "atypical" career involvement among women. Becker posits that initial stages of deviant behavior originate less from the "deviator" and more from those who observe the behavior and label it as deviant. Thus, for women who become involved with a professional career, the stigma of being labelled a deviant because they are violating sexrole norms (Bernstein and Bohrnstedt 1972) becomes an added dimension to their continued professional involvement. Being labelled as deviant is one step short of being deviant. (The question, "Who wants to be labelled deviant?" is particularly relevant here.) If females who choose deviant interests pursue them despite the stigma, one can expect such women to capitalize upon their investments in professional training. Therefore, the important question to be answered is whether or not women who have pursued careers that others label as more sex-atypical and carry with them the potential social stigma of being labelled deviant remain in those "deviant" activities.

To assess deviant career involvement among women, it does not suffice to observe employment status alone, i.e., presence or absence of full time labor force participation. To do so would ignore the tendency of many women to relinquish less traditional interests for traditional employment--for example, a female biology graduate who becomes a secretary. To assess involvement with a professional interest, documentation must be on the basis of <u>substantive</u> involvement with the career field; a biology graduate who relinquishes a research career but edits biological reports is maintaining her deviant career interests to some degree. Therefore, the foci of this analysis are career involvement <u>per se</u> and

retention of specific study and career field interests in later full-time employment. This conceptualization suggests an intuitive operationalization of the tendency for a career to be labelled deviant: the percentage of females in a given career field (cf. Tangri 1968). (Commitment to a professional career can prevail among those in more traditional fields, although their professional motivation may be less clear.)

DATA AND METHODOLOGY

Sample

These data were collected as part of a larger study conducted by the National Opinion Research Center on a representative sample of the June 1961 college graduating class. Through self-administered questionaires, the future plans of college seniors were assessed (wave A) and then followed up for three years (waves B, C and D). A fifth assessment (wave E), conducted in 1968, was designed to study the attitudes of individuals seven years beyond college graduation.

The universe for the 1961 College Graduating Class Study was limited to all college students completing the requirements for a baccalaureate degree during the spring 1961 term and who received such degrees at the end of the term from an eligible institution of higher learning.[1] The sample design was a two-stage probability sample drawn from this universe. The first stage selected 135 schools from the 1,039 eligible institutions. The second stage was a sample of each institution's prospective graduates (N=41,116). The sample for wave E was based upon respondents who had

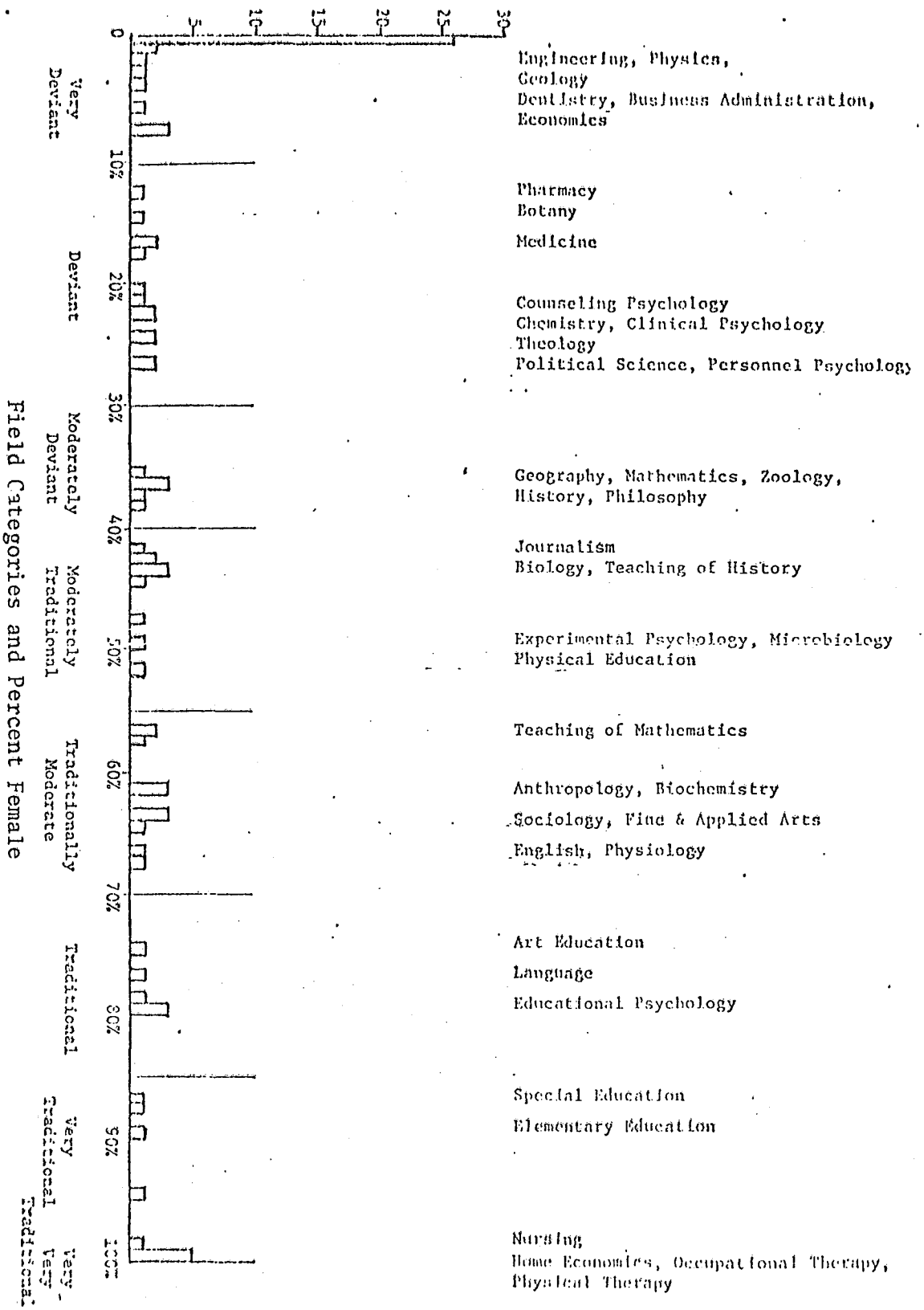

Figure 1. Distribution of Study Field Categories with Some Examples

replied to all four earlier waves (ABCD's), giving a sample of 20,254 cases. A 30 percent subsample of the ABCD's was drawn for a sample of 6,005 cases. Of the eligible ABCD's, 81 percent, or 4,868, returned usable questionnaires.

All white females responding to the wave E questionnaire comprised the sample for the analyses presented here (N=1,685).[2] Because the wave E sample was drawn as a subsample from those respondents included in all previous waves, the possibility of sample response bias as a result of attrition was investigated through differences in selected demographic characteristics of the respondents between waves A and E (Bielby 1975). Appreciable differences were not detected except that white, Protestant respondents tended to remain in the longitudinal sample disproportionately, as did those who had a record of success in their college careers.

Models and Variables

Several aspects of career continuity among college-educated women were assessed. Determinants of three social events were examined: (1) sex-atypicality of undergraduate study field; (2) labor force or school involvement seven years past the baccalaureate; and (3) sex-atypicality of career field among those involved in schooling or in the labor force seven years past the baccalaureate. Separate models for subpopulations of all, never-married and ever-married white females were estimated for each social event, yielding a total of nine models. Analyzing never- and ever-married subpopulations separately permits examination of the effects of certain characteristics (e.g., attributes of the spouse, number of children) that are determinants of career involvement for married women but are inapplicable

for women who have never married.[3] Separate analyses also allow for factors applicable to both but which differentially affect single and married women.

Models specify study field deviance in 1961 (wave A) to be determined by background factors including socioeconomic indicators and demographic characteristics and by contemporaneous factors including school quality and school performance. Models specify career involvement in 1968 (wave E) to be determined by the same factors and also by support of significant others, attitudes about career importance, and previous career involvement and sex-atypicality. Analyses presented here utilize information obtained from four of the five waves; no wave C (1963) data were included.[4]

Career involvement was conceptualized as presence or absence of full-time employment or enrollment in graduate or professional school. It was measured as a dummy variable in waves B (INB), D (IND), and E (I (INE), with 0 indicating absence of involvement with full-time employment or school and 1 indicating involvement with one or both activities.

Career field deviance in each wave (DEVA, DEVB, DEVD, DEVE) was measured by the degree to which the woman's field of full-time employment or study is sex-atypical. In each wave of the study, respondents were asked to select from a list of 95 occupational fields that field which most closely corresponded to their current field of employment or study.[5] The percentage of females pursuing baccalaureate degrees in each of these fields in 1961 was taken as the standard for the deviance measures.[6] The seven-point deviance scale for the 95 fields was constructed from these percentages as follows:

0 -10% female = 8 - very deviant

11-30% female = 7 - very deviant

31-40% female = 6 - moderately deviant

41-55% female = 5 - slightly traditional

56-70% female = 4 - moderately traditional

71-85% female = 3 - traditional

86-100% female= 2 - very traditional.

Categories were selected to conincide with natural breaks in the distribution of field by percent female (see Figure 1). Forty percent of the 1961 college graduates were females; consequently any field less than 40 percent female is labelled as sex-atypically deviant to some degree. A career deviance score was assigned to the undergraduate study field of every woman in wave A. In waves B, D, and E, a career deviance score was assigned only if a woman was determined to be a career involved in the respective wave.

Socioeconomic background variables included in the analyses are: educational attainment of respondent's mother (MOED) and father (FAED), socioeconomic status of father's occupation (FASEI), and employment status of the mother when the respondent was less than or equal to age 10 (MLE10) and greater than or equal to age 11 (MGE11). The education variables (MOED, FAED) were measured as follows:

8th grade or less	= 1
some high school	= 2
high school graduate	= 3
some college	= 4
college graduate	= 5
graduate or professional school	= 6.

Socioeconomic status of the father (FASE1) was measured with Duncan's Socioeconomic Index (Duncan 1961). The maternal employment variables (MLE10, MGE11) were measured as 0-1 dummy variables with 1 indicating full-time employment during the particular age period.

Demographic variables included in the analysis are: a 0-1 dummy variable for age (AGE) with 1 indicating a respondent greater than 30 years of age in 1961; 0-1 dummy variables for marital status at waves A, B, D, and E (MARRA, MARRB, MARRD, MARRE) with ever-married coded as 1; husband's educational attainment at wave D (HUSEDD) coded according to the same scale as parental educational attainment; and number of children at wave E (CHLDE).

Measures of school quality and performance are: undergraduate grade point average (GPA) coded on a scale form 0 to 8 (D+, C-, C, C+,...., A-, A are coded 0 through 8 respectively); an index of school quality (SQ1) developed by NORC which ranges from 1 (low quality) to 4 (high quality); 0-1 dummary variables indicating graduation from a liberal arts college (LIBARTS) or a university (UNIV); 0-1 dummy variable indicating whether or not the respondent achieved academic honors (ACHON), awards (AWARD) or participated in original research (RES) as an undergraduate.

Several measures of support and influence of significant others are also included in the analysis. Whether or not most of the respondent's undergraduate friends planned to attend graduate school (FRGRAD, measured at wave A) was represented as a 0-1 dummy variable. Three indicators of significant other support were obtained at wave D (1964). From a list of seven career--architect, business executive, college professor, doctor, engineer, lawyer, and research scientist--the

respondent was to indicate which of the careers she disapproved of for women. These responses were scaled to indicate the respondent's support/ disapproval (SORESP) of career deviance. The variable was scaled as follows:

Number of disapprovals	Score
0	0 - very supportive
neutral	-4
1	-5
2,3	-6
4,5	-7
6,7	-8 - very unsupportive

Married women in 1964 (wave D) were asked directly about their husband's feeling towards their own actual or potential full-time employment. Scaling the five response categories, very negative to very politive, on a 1 to 5 scale provides one more support measure (SOHUS) for women married by 1964. Finally, three years past the baccalaureate respondents were asked to indicate whether most of their friends were from work or from other contexts. A 0-1 dummy variable was constructed (FRWKD) with 1 indicating friends were from work.

In 1964 and 1968 waves D and E items were included which assess whether the respondent's primary satisfaction in life derived from family relationships or career. Dummy "career commitment" scales (CCD, CCE) were constructed by assigning 1 to career and 0 otherwise.

RESULTS

Presented in Table 1 are the marital status of respondents in 1961, 1962, 1964, and 1968. About 80 percent of the women were single when they graduated from college in 1961; by 1968 nearly 85 percent were or had been married. In Table 2, evidence of career involvement after graduation is presented. One year past the baccalaureate, nearly 85 percent of the women were pursuing additional schooling or were employed full-time. By 1968, less than 40 percent were career-involved. The table clearly reveals that married women are less likely than single women to be career-involved at each time period, and the decline over time in career involvement is steepest among married women.[7]

Table 3 presents mean career sex-atypicality (or career deviance) for career-involved women by year. The first row clearly indicates that single women tend to graduate in more atypical fields than do married women. Furthermore, married women are more concentrated in more sex-typical fields (compare standard deviations). Women who are married as undergraduates may be more traditional and reflect this in their career aspirations. Additionally, they may tend to prepare for those sex-typical fields which allow combining family and occupational roles (e.g., occupations such as nursing and teaching which are easily interruptible and allow flexible scheduling). Examination of the next two lines shows a movement toward more sex-typical careers after graduation among career-involved women of either marital status. While married women remain in more typical fields than do single women, a trend over time toward more typical fields is not as evident. However, over time

Table 1

Marital Status by Year: White Female College Graduates of 1961

	Single	Ever-Married	NA	Total	% Ever-Married
Wave A - 1961	1329	338	18	1685	20.3
Wave B - 1962	919	764	2	1685	45.4
Wave D - 1964	525	1159	1	1685	68.8
Wave E - 1968	257	1405	23	1685	84.5

Table 2

Percent Enrolled in School or Employed Full-time by Year and by Marital Status:

White Female College Graduates of 1961

	All	Single	Married
Wave B - 1962	84.6	95.7	70.7
Wave D - 1964	65.0	94.2	51.7
Wave E - 1968	38.2	81.9	30.4

Table 3

Career Sex-atypicality of Career Involved Women by year and Marital Status:

White Female College Graduates of 1961 Employed Full-time or in School in Each Year

	All			Single			Married		
	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N
Wave A - 1961	3.33	1.37	1685	3.44	1.39	1329	2.88	1.15	338
Wave B - 1962	3.20	1.57	1424	3.39	1.64	885	2.88	1.38	538
Wave D - 1964	3.04	1.44	1105	3.29	1.51	500	2.38	1.34	504
Wave E - 1968	3.33	1.62	627	3.67	1.69	214	3.16	1.55	413
Wave A - 1961 by Wave E Marital Status	3.04	1.42	627	3.60	1.54	214	3.30	1.35	413

the group of married women is incorporating formerly single women who prepared for less typical fields. Furthermore, the more traditional previously married career-involved women are perhaps more likely to be dropping out of the labor force or school to raise children. The processes involved are obviously complex and require finer analysis to be understood. The trend away from atypical careers among single women may be a reflection of several processes. Single women in atypical fields may find it more difficult to maintain continuous involvement in those fields; they could be "dropping out," changing fields, and/or getting married (those in atypical fields may find themselves in more favorable marriage markets). The fourth line of Table 3 seems to indicate a trend back toward more atypical career involvements from 1964 to 1968. However, closer examination reveals this to be an artifact of subsample selection. Line 5 gives the sex-atypicality of undergraduate career field of those women career-involved in 1968. It can be seen that the career-involved married women in 1968 are in more typical fields than those for which they prepared in school, and career-involved single women in 1968 are in only slightly more atypical fields. Thus, the apparent 1964-1968 trend toward atypicality is for the most part due to less career involvement among more traditional women.

In Tables 4 through 6 are presented three structural regression models of career involvement and atypicality for female college graduates of 1961: a model of career sex-atypicality of 1961 study field (Tables 4A and 4B); a model of career involvement in 1968 (Tables 5A and 5B); and a model of career sex-atypicality of career involved women in 1968 Tables 6A and 6B). Each model presents a series of

Table 4A

Determinants of 1961 Career Atypicality (DEVA) Among Career-involved White Female College Graduates of 1961: Standardized Coefficients

	All Women (N=1650)			Single Women (N=1300)			Married Women (N=332		
	Standardized Coefficients			Standardized Coefficients			Standardized Coefficients		
FAED	.025[a]	.016[a]	-.015[a]	.048[a]	.054[a]	.025[a]	-.108[a]	-.119[a]	-.139[a]
MOED	.036[a]	.018[a]	-.019[a]	-.030[a]	-.028	-.070	.272	.231	.220
FASEI	.105	.105	.064	.123	.118	.064[a]	-.013[a]	-.016[a]	-.019[a]
AGE		-.031[a]	-.010[a]		.049[a]	.057		-.107[a]	-.068[a]
MARRA		-.133	-.102			--			--
SQI			.179			.204			.112[a]
LIBARTS			.121			.137			--
UNIV			.018[a]			.011[a]			--
GPA			-.133			-.171			--
AWARD			.076			.078			.123
ACHON			.120			.152			--
RES			.102			.116			--
FRGRAD			.056			--			.147
R^2	.020	.042	.124	.020	.023	.123	.052	.061	.107

[a]Non-significant coefficient (less than twice as large as its estimated standard error)

Table 4B

Determinants of 1961 Career Atypicality (DEVA) Among White Female College Graduates of 1961:

Unstandardized Coefficients, Means and Standard Deviations

	All Women (N=1650)					Single Women (N=1300					Married Women (N=332)				
	Metric Coefficients			Mean	S.D.	Metric Coefficients			Mean	S.D.	Metric Coefficients			Mean	S.D.
FAED	.020[a]	.013[a]	-.012[a]	3.52	1.71	.040[a]	.044[a]	.021[a]	3.61	1.69	-.070[a]	-.077[a]	-.090[a]	3.13	1.77
MOED	.036[a]	.018[a]	-.019[a]	3.43	1.37	-.031[a]	-.029[a]	-.073	3.51	1.35	.221	.188	.179	3.08	1.41
FASEI	.006	.006	.003	54.13	25.19	.007	.007	.004[a]	55.02	25.22	-.001[a]	-.001[a]	-.001[a]	50.16	24.71
AGE		-.185[a]	-.059[a]	0.05	0.23		1.009[a]	1.163	0.00	0.06		-.276[a]	-.175[a]	0.27	.045
MARRA		-.473	-.361	0.18	0.39			--	0.00	0.00			--	1.00	0.00
SQI			.348	1.88	0.71			.405	1.91	0.70			.185[a]	1.72	0.70
LIBARTS			.333	0.54	0.50			.348	0.56	0.50			--	0.47	0.50
UNIV			.052[a]	0.33	0.47			.032	0.32	0.47			--	0.36	0.48
GPA			-.120	4.42	1.52			-.158	4.35	1.51			--	4.72	1.50
AWARD			.219	0.65	0.48			.230	0.66	0.47			.293	0.63	0.48
ACHON			.219	0.47	0.75			.279	0.47	0.76			--	0.44	0.71
RES			.291	0.36	0.48			.334	0.38	0.49			--	0.27	0.44
FRGRAD			.093	0.57	0.83			--	0.57	0.83			.201	0.54	0.84
CONSTANT	2.83	3.02	2.61			3.03	3.02	2.70			2.44	2.65	2.08		
R^2	.020	.042	.124			.021	.023	.123			.052	.061	.107		

[a]Non-significant coefficient (less than twice as large as its estimated standard error)

Table 5A

Determinants of 1968 Labor Force or School Involvement (INE) Among White Female College Graduates of 1961

Standardized Coefficients

	All Women (N=1650)				Single Women (N-1300)			Married Women (N=332)			
	Standardized Coefficients				Standardized Coefficients			Standardized Coefficients			
MOED	.058[a]	.056[a]	.070	.067	-.062[a]	-.099[a]	-.095[a]	.085	.087	.114	.098
FAED	-.133	-.133	-.096	-.075	-.242	-.228	-.191	-.079	-.080	-.056[a]	-.066
FASEI	-.002[a]	-.001[a]	-.020[a]	-.032[a]	.280	.292	.246	-.073	-.075	-.044[a]	-.028[a]
MGE11	-.084	-.084	-.062	-.063	--	--	--	-.091	-.091	-.079	-.060
MLE10	.074	.072	.047[a]	.045[a]	--	--	--	.065	.064	.052[a]	.053
AGE	.169	.174	.191	.188	--	--	--	.230	.232	.199	.247
DEVA		--	--	--		-.140	-.093[a]		--	--	--
GPA		-.046[a]	-.048	-.054		-.305	-.282		--	--	--
AWARD		--	--	--		--	--		.048[a]	.075	.065
UNIV			--	--		.190[a]	.200			--	--
LIBARTS			--	--		.097[a]	.144[a]			--	--
FRWKD			--	--			.165			--	--
IND			.185	.186			--			--	--
SORESP			--	--			.091[a]			--	--
SOHUS			--	--			--			.250	.149
MARRD			-.290	-.166			--			-.214	-.100
HUSEDD			--	--			--			-.162	-.172
CCD			.118	.075			--			.104	.078
CHLDE				--							-.318
MARRE				-.186							--
CCE				.068							--
R^2	.052	.054	.254	.282	.060	.183	.217	.076	.079	.238	.331

[a]Non-significant coefficient (less than twice as large as its estimated standardized error)

Table 5B

Determinants of 1968 Labor Force or School Involvement (INE) Among White Female College Graduates of 1961

Unstandardized Coefficients, Means and Standard Deviations

	All Women (N=1650)						Single Women (N=248)					Married Women (N=1380)					
	Metric Coefficients				Mean	S.D.	Metric Coefficients			Mean	S.D.	Metric Coefficients				Mean	S.D.
MOED	.021[a]	.020[a]	.025	.024	3.43	1.37	-.017[a]	-.027[a]	-026[a]	3.34	1.42	.029	.030	.039	.033	3.45	1.38
FAED	-.038	-.038	-.027	-.021	3.52	1.71	-.055	-.052	-.043	3.25	1.71	-.021	-.021	-.015[a]	-.018	3.56	1.71
FASEI	-.000[a]	-.000[a]	-.000[a]	-.000[a]	54.13	25.19	.004	.004	.004	54.16	25.56	-.001	-.001	-.000[a]	-.000[a]	54.12	25.13
MGE11	-.085	-.085	-.062	-.064	0.37	0.49		--	--	0.35	0.48	-.087	-.087	-.075	-.057	0.37	0.48
MLE10	.096	.094	.061[a]	.059[a]	0.17	0.37		--	--	0.19	0.40	.081	.080	.064[a]	.066	0.16	0.37
AGE	.365	.377	.412	.405	0.05	0.23		--	--	0.02	0.14	.447	.450	.385	.479	0.06	0.24
DEVA		--	--	--	3.34	1.37		-.037	-.025[a]	3.62	1.47		--	--	--	3.28	1.34
GPA		-.046	-.015	-.018	4.42	1.52		-.076	-.071	4.38	1.54		--	--	--	4.43	1.51
AWARD			--	--	0.65	0.48		--	--	0.64	0.48		.046[a]	.073	.063	0.66	0.48
UNIV			--	--	0.33	0.47		.160[a]	.168	0.30	0.46			--	--	0.33	0.47
LIBARTS			--	--	0.54	0.50		.076[a]	.113[a]	0.59	0.49			--	--	0.53	0.50
FRWKD			--	--	0.45	0.50			.130	0.61	0.49			--	--	0.43	0.49
IND			.189	.189	0.65	0.48			--	0.95	0.22			--	--	0.59	0.49
SCRESP			--	--	1.92	2.62			.014[a]	1.82	2.56			--	--	1.94	2.64
SGHUS			--	--	--	--			--	--	--			.072	.043	3.30	1.59
MARRD			-.304	-.179	0.69	0.46			--	--	--			-.254	-.118	0.82	0.39
HUSEDD			--	--	--	--			--	--	--			-.067	-.071	3.09	1.12
CCD			.186	.119	0.11	0.31			--	0.30	0.46			.189	.141	0.07	0.25
CHLDE				--	--	--			--	--	--				-.137	1.601	1.06
MARRE T				-.250	0.84	0.36			--	0.00	0.00				--	1.00	0.00
CCE				.103	0.12	0.32			--	0.39	0.49				--	0.07	0.25
Constant	.442	.509	.539	.663			.824	1.213	1.022			.344	.314	.376	.604		
R^2	.052	.054	.254	.282			.060	.183	.217			.077	.079	.238	.312		

[a] Non-significant coefficient (less than twice as large as its estimated standard error).

Table 6A

Determinants of 1968 Career Atypicality (DEVE) Among Career-Involved White Female College Graduates of 1961: Standardized Coefficients

	All Women (N=582)					Single Women (N=197)				Married Women (N=385)				
	Standardized Coefficients					Standardized Coefficients				Standardized Coefficients				
MOED	.030[a]	-.004[a]	.004[a]	-.012[a]	-.006[a]	.067[a]	.047[a]	.045[a]	.021[a]	,078[a]	.003[a]	.024[a]	.019[a]	.016[a]
FAED	-.070[a]	-.053[a]	-.049[a]	-.051[a]	-.043[a]	-.205[a]	-.073[a]	-.026[a]	-.025[a]	.019[a]	-.021[a]	-.035[a]	-.074[a]	-.076[a]
FASEI	.126	.042[a]	.025[a]	.025[a]	.015[a]	.155[a]	-.003[a]	-.076[a]	-.096[a]	.080[a]	.031[a]	.041[a]	.039[a]	.034[a]
AGE	-.122	-.065[a]	-.057[a]	-.063[a]	-.053[a]		--	--	--		--	--	--	--
MARRA		--	--	--	--		--	--	--		-.049[a]	-.137	-.083[a]	-.115
GPA		.160	.087	.085	.092		.172	.133	.064[a]		.166	.047[a]	.056[a]	.040[a]
DEVA		.422	.138	.087	.089		.517	.216	.140		.359	.123	.108	.107
SQI		.143	.113	.108	.106		.115[a]	.103[a]	.092[a]		.159	.131	.098	.105
MARRB			--	--	--			--	--			.207	.110	.089[a]
DEVB			.564	.356	.349			.513	.150[a]			.600	.335	.338
INB			-.258	-.134	-.135			.118[a]	.079[a]			-.292	-.156	-.161
FRWKD				--	--				.066[a]				--	--
DEVD				.423	.421				.593				.395	.380
IND				-.293	-.300				-.365				-.251	-.220
HUSEDD					--								.135	.136
SOHUS					--								-.130	-.134
MARRE					-.061[a]									--
CHLDE														.071[a]
CCE														.114
R^2	.030	.271	.400	.461	.464	.019	.331	.454	.567	.022	.233	.382	.453	.467

[a]Non-significant coefficient (less than twice as large as its estimated standard error)

Table 6B

Determinants of 1968 Career Atypicality (DEVE) Among Career-Involved White Female College Graduates of 1961:
Unstandardized Coefficients, Means, and Standard Deviations

	All Women (N=582)							Single Women (N=197)							Married Women (N=385)						
W	Metric Coefficients					Mean	S.D.	Metric Coefficients				Mean	S.D.		Metric Coefficients					Mean	S.D.
MOED	.035[a]	-.004[a]	-.004[a]	-.014[a]	-.007[a]	3.33	1.41	.080[a]	.056[a]	.054[a]	.025[a]	3.28	1.42		.085[a]	.004[a]	.026[a]	.020[a]	.118[a]	3.35	1.41
FAED	-.066[a]	-.050[a]	-.047[a]	-.048[a]	-.041[a]	3.24	1.70	-.204[a]	-.073[a]	-.026[a]	-.025[a]	3.18	1.70		.017[a]	-.019[a]	-.033[a]	-.068[a]	-.069[a]	3.27	1.70
FASEI	.008	.003[a]	.002[a]	.002	.001[a]	51.61	25.81	.011[a]	-.000[a]	-.005[a]	-.006[a]	55.41	23.51		.005[a]	.002[a]	.002[a]	.002[a]	.002[a]	49.75	26.69
AGE	-.653	-.348[a]	-.305[a]	-.337[a]	-.280[a]	0.10	0.30	--	--	--	--	0.03	0.16			--	--	--	--	0.14	0.35
MARRA		--	--	--	--	0.17	0.38		--	--	--	--	--			-.174[a]	-.488	-.297[a]	-.411	0.25	0.44
GPA		.171	.093	.091	.098	4.36	1.51		.200	.155	.075[a]	4.14	1.46			.169	.046[a]	.057[a]	.041[a]	4.47	1.53
DEVA		.479	.157	.009	.101	3.40	1.42		.571	.239	.155	3.60	1.54			.411	.141	.123	.122	3.30	1.35
SQI		.318	.253	.241	.237	1.84	0.72		.259	.230[a]	.207[a]	1.92	0.76			.350	.289	.217	.231	1.80	0.70
MARRB			--	--	--	0.31	0.46			--	--	--	--				.643	.342	.277[a]	0.46	0.50
DEVB			.511	.323	.316	2.95[b]	1.78[b]			.485	.142[a]	3.36[b]	1.79[b]				.533	.297	.300	2.74[b]	1.35[b]
INB			-1.37	-.715	-.720	0.90	0.30			-.929[a]	.624[a]	0.95	0.22				-1.35	-.721	-.743	0.87	0.34
FRWKD				--	--	0.58	0.49				.235[a]	0.66	0.48					--	--	0.54	0.50
DEVD				.392	.389	2.66[c]	1.75[c]				.570	3.09[c]	1.76[c]					.361	.347	2.45[c]	1.70[c]
IND				-1.35	-1.38	0.86	0.35				-2.53	0.94	0.24					-1.01	-.884	0.82	0.39
HUSEDD					--	--	--					--	--					.204	.206	2.66	1.02
SOHUS					--	--	--					--	--					-.167	-.173	4.12	1.21
MARRE					-.209[a]	0.67	0.47					0.00	0.00						--	1.00	0.00
CHLDE					--	--	--					--	--						.096[a]	0.97	1.15
CCE					--	0.21	0.41					0.40	0.49						.053	0.12	0.33
Constant	3.087	.445	1.738	2.106	2.636			3.427	.353	1.187	2.178				2.587	.427	1.418	1.966	1.907		
R^2	.030	.271	.400	.461	.464			.019	.331	.454	.567				.022	.233	.382	.453	.467		

[a] Non-significant coefficient (less than twice as large as its estimated standard error)

[b] Mean & standard deviation of career deviance in wave B computed by assigning score of 0 to woman not career=involved at wave B.

[c] Mean & standard deviation of career deviance in wave D computed by assigning score of 0 to woman not career=involved at wave D.

regression equations from reduced form to full structural equations. Subsequent variables are entered in temporal order--schooling and other wave A variables, wave B variables, wave D variables, and wave E variables. Because social processes are expected to operate differently for married and single women, after estimating each model for all women, separate models are estimated for single and ever-married women.

The general strategy for model construction was to retain an independent variable in a regression equation if the coefficient for that variable was estimated to be twice its standard error or if the standardized coefficient was approximately .10 or greater in magnitude. Some exceptions were made to this strategy. Social background variables, parental education (MOED, FAED) and father's socioeconomic status (FASE1), were always retained due to their substantive importance as exogenous variables and because their colinearity makes assessment of their individual effects difficult. Other variables were retained or dropped in groups. If either of the school type variables (UNIV, LIBARTS) had a significant effect, both were retained. Similarly, the two maternal employment variables (MGE11, MLE10) were retained or dropped together. Because career sex-atypicality applies only to career-involved women, whenever career sex-atypicality from a given wave had a significant effect, career involvement from the same wave had to be retained (e.g., the effects of INB and DEVB upon DEVE in Tables 6A and 6B).[8]

In the left-most panel of Tables 4A and 4B it can be seen that the quality and type of schooling experience affect sex-atypicality of undergraduate study field; married women are in more traditional fields, and a slight tendency may exist for women of higher status origins to be in

atypical fields.[9] The three background variables together account for only 2 percent of the variance in DEVA, with father's socioeconomic status having the largest effect. About 40 percent of the reduced form effect of FASE1 is mediated by type and quality of schooling. The coefficients show that women graduating from higher quality schools (SQ1) and from universities (UNIV), women achieving awards and honors (AWARD, ACHON), women participating in original research as undergraduates (RES), and women whose friends plan to continue schooling (FRGRAD) are more likely to be in sex-atypical fields. Women who received better grades (GPA) are in more typical fields. However, this probably reflects the reverse causal order: grading standards are less stringent in traditional fields. The metric coefficient for MARRA of -.36 in the full equation indicates that of the mean difference in sex-atypicality between married and single women (0.56, see line 1 of Table 3), more than half of the difference persists after accounting for differences between single and married women on the other independent variables.

Examining single and married women separately reveals some significant differences. That age (AGE) has a small negative effect upon sex-atypicality of study field for married women only is not surprising. Older married women are possibly more traditional, and if they are more likely to have children, they may tend to prepare for those sex-typical occupations that allow combining family and career. The quality and type of schooling variables are generally more important for the sex-atypicality of single women, demonstrating that single women utilize schooling resources in pursuit of careers whereas married women tend to use them less.

The schooling decisions of married women are likely to be contingent upon family considerations, suggesting that family factors inhibit the systematic utilization of schooling resources among these women. It was found, however, that a social support variable, friends planning to attend graduate school (FRGRAD), influences the career atypicality of married but not single women. Apparently single women do not need this contextual source of social support. Finally, social origins appear more important for married women. The three variables alone explain 5 percent of the variance in DEVA. Overall, a smaller proportion of the variation in career atypicality is explained among married women, even though there is less overall variance to account for (compare standard deviations in line 1 of Table 3). Again, this suggests that married women are less likely to systematically utilize their resources in their pursuit of careers.

Tables 5A and 5B present models for career involvement (full-time employment or school involvement) seven years past the baccalaureate in 1968. The model for all women is for the most part uninformative, because the processes for single and married women are radically different. The model for all women is for the most part uniformative, because the processes for single and married women are radically different. The model for all women does show that being married in 1964 (MARRD), and net of that, being married in 1968 (MARRW) substantially reduces the likelihood of being career-involved in 1968.

About 82 percent of the single women were career-involved in 1968. The middle panels of Tables 5A and 5B show that the determinant with the largest relative effect upon 1968 career involvement for single women

is undergraduate grade point average (GPA). Single women who did well as undergraduates are less likely to be career-involved in 1968. There is no obvious explanation for this finding and none will be presented here. Table 5A and 5B also show a slight tendency for single women who graduated from universities to be career-involved.

Modest effects of social background or career involvement are also evident among single women; father's socioeconomic status (FASE1) and education (FAED) have effects nearly equal in magnitude but opposite in sign. Father's socioeconomic status has a net positive effect on the likelihood of career involvement while father's educational attainment (and to a lesser extent mother's educational attainment) has a net negative effect. It may be that the FASE1 effect indicates a transmission of economic involvement, while parental education indexes the intellectual climate of social origin which has a negative effect upon the likelihood of single women becoming career-involved seven years past the baccalaureate.

Although the effect is not strong, the results for single women show that those who graduated in more sex-atypical fields in 1961 (DEVA) are less likely to be career-involved in 1968. It is possible that "deviant" single women who located employment in male-dominated career fields found it more difficult to maintain employment in those fields. Finally, single women whose friends were primarily from work in 1964 (FRWKD) are more likely to be career-involved in 1968.

Among married women (the right-most panel of Tables 5A and 5B), older women (those who were older than 30 in 1961) are more likely to be career involved in 1968. This effect persists even after

introducing marital status in 1964 and number of children in 1968 into the model. Presumably, older women who are no longer raising young children are returning to the labor force by 1968. The other important determinants of career involvement among married women also pertain to marriage and family. Four variables measured in 1964 all have modest effects. Married women whose husbands were supportive of their working (SOHUS) are more likely to be career-involved in 1968, as are those married women who indicated in 1964 that they expected their primary satisfaction in life to be from a career instead of family (CCD). Married women in 1968 who had been married since 1964 (MARRD) are also less likely to be career-involved. Furthermore, women with more highly educated husbands (HUSEDD, assessed in 1964) are less likely to be career-involved in 1968. The opposite effects of husband's education (HUSEDD) and husband's support (SOHUS) seem to indicate that while the husband's education (HUSEDD) and husband's support (SOHUS) seem to indicate that while the husband's encouragement coutributes to the wife's career involvement, she is also more likely to be career-involved if economic contingencies make it necessary (assuming less educated husbands earn less). Another family variable, the number of children a woman has in 1968 (CHLDE), has the strongest effect on whether or not a married woman is career-involved in 1968. The net effect of each additional child is to reduce the probability of being career-involved by -.14 (see the metric coefficient of CHLDE in Table 5B).

Finally, some small effects of social background variables were detected. The two measures of father's status, FASE1 and FAED, have negative effects on 1968 career involvement of married women, and they

are offset by a positive effect of mother's education (MOED) on career involvement. Similarly, maternal full-time employment when the respondent was a child (MLE10) and adolescent (MGE11) have small and offsetting effects on career involvement of married women. If the mother of a respondent worked when the respondent was 10 years of age or younger there is a slight tendency towards career involvement in 1968, whereas there is a tendency away from career involvement if she worked when the respondent was 11 years of age or older. However, these effects, if they actually exist in the population, are too small to warrant speculation about why they differ.

Tables 6A and 6B present analyses of career sex-atypicality seven years past the baccalaureate of career-involved women in 1968. The processes determining career sex-atypicality (DEVE) for married and single career-involved women are quite similar (in contrast to what was found for career involvement in Tables 5A and 5B). That is, those variables applicable to both single and married women differ little as determinants of career diviance. Nevertheless, career-involved married women are in more traditional fields than are single women in 1968 (see line 4, Table 3), and the metric coefficient for MARRE of -.21 in the left panel of Table 6B shows that about 40 percent of the mean difference between married and single women in DEVE cannot be accounted for by the other independent variables in the model.

Social background variables have no substantive effects on career sex-atypicality for either career-involved single or married women. Undergraduate grade point average (GPA) and school quality (SQI) have modest positive effects on career sex-atypicality for both married and single

career-involved women. Note that while GPA has a negative effect upon career involvement for single women, given that they are career-involved, it has a positive effect on their career sex-atypicality. For both married and single career-involved women, the strongest determinants of 1968 career sex-atypicality are career sex-atypicality in previous waves. The net return to career sex-atypicality in 1964 is .57 points of DEVE for each point of DEVD for single women; similarly, for single women the gross return to undergraduate career field sex-atypicality (DEVA) is about .57 (see Table 6B). For career-involved married women in 1968, the net return to DEVD and gross return to DEVA are both about .35 (see Table 6B). For both married and single women, there are returns to 1961 and 1962 career field sex-atypicality (DEVA and DEVB) even net of 1964 career field sex-atypicality (DEVD). That is, the most important determinant of 1968 career field sex-atypicality for career-involved women is earlier career field atypicality, and the across-time stability appears slightly stronger for single women.

For career-involved single women there is a slight tendency for those indicating that their friends were primarily from work in 1964 (FRWKD) to be in more atypical fields in 1968. This effect was not detected for career-involved married women. For those women, the effects of several of the "family" variables on career sex-atypicality are opposite in direction to the effects of the same variable on career involvement. Given that a married woman is career-involved, she is more likely to be in an atypical field if her husband is more highly educated (HUSEDD)

and less likely to be in a sex-atypical field if her husband is supportive of her career involvement (SOHUS). While husband's education (HUSEDD) appears to be an economic disincentive to career involvement, given that involvement, it appears to support less typical activity. While husband's support (SOHUS) is important for career involvement of a married women, that support does not extend to her involvement in an atypical field. Tables 6A and 6B also show that given career involvement among married women, those with more children (CHLDE) are slightly more likely to be in more atypical fields.

Career-involved married women show a small tendency to be in more atypical fields if they indicated in 1968 that their primary satisfaction in life was expected to be from a career instead of a family (CCE). The effect of being married since 1962 (MARRB) on career sex-atypicality is small and positive while the net effect of being married since undergraduate school (MARRA) is of about the same magnitude but negative.

Earlier career "deviance" and the quality of schooling experience account for more than 50 percent of the variance in 1968 career sex-atypicality of career-involved single women, and these same variables plus several family variables account for almost 50 percent of the variance for career-involved married women. Having noted the importance of earlier "deviance," it should be recalled that women who were single in 1961 were better able to use schooling resources to make their initial investments in "deviant" careers.

DISCUSSION

The above analysis examines those factors which have affected the capitalization upon educational investments by college educated women.

First, determinants of sex-atypicality of undergraduate career field were examined. Next, determinants of whether or not these women were career-involved seven years past the baccalaureate in 1968 were investigated. Finally, for those women who were career-involved in 1968, determinants of sex-atypicality of their fields were analyzed.

It was found that women who were married as undergraduates are more likely to prepare for traditional sex-typical careers. The quality and type of schooling experience is less likely to affect the career field choice of these women compared to single women. Seven years later, marriage and children reduce the likelihood of a woman being full-time employed or in school while perception of husband's support was important for their career involvement. Several factors had less significant impact upon the career involvement of married women. Older married women are more likely to be career-involved, presumably because they are not raising young children. Women whose husbands are not highly educated are more likely to be career-involved, possibly for economic reasons. In addition, women who have previously indicated that they expected life satisfaction from a career are more likely to be career-involved.

For single women no one factor was found to be an important determinant of career involvement seven years after the baccalaureate.

Given that women were career-involved in 1968, several patterns in the determinants of career atypicality of both married and single women emerged. First, previous sex-atypical career involvement greatly influenced sex-atypicality of 1968 career field. As was found for sex-atypicality of undergraduate career field in 1961, career-involved

married women were in more typical fields than were single women in 1968. Career-involved women who did well in school and who attended quality schools as undergraduates were in more atypical fields in 1968. Overall, critical initial career choices of women, perhaps the outcome of early socialization, and their later marital and family contingencies are crucial for their continuing pursuit of "deviant" career commitments.

The type and extent of contemporary factors which influence capitalization upon professional training await rigorous analysis. One might predict that marriage and children no longer so clearly inhibit career involvement. The extent to which these inhibitions have been reduced with respect to involvement with and entry into a range of career fields has yet to be examined. As for changes in the meaning of involvement with a professional career (i.e., the deviance of a career [Becker 1963]), it is apparent upon cursory survey that more women are willing to be labelled deviant today than were in the period of 1961-1968. If women are becoming increasingly involved with atypical career fields, is it because these fields have changed or because women's interests have altered? It seems likely that the atypical fields have changed very little, but women recognizing a wider range of interests are more willing than before to accept the "deviant" label until social acceptance is accorded them. Contemporary career involvement is further complicated by the extent to which women are unable to set aside early socialization that discourages sex-atypical interests.

NOTES

[1]The universe excludes recipients of a five-year first professional degree.

[2]The 114 non-white females were eliminated from the sample since their small numbers precluded separate analyses by racial groups. The likelihood that the career processes of non-whites were substantially different from those of white women (Turner 1968) made it inadvisable to conduct analyses aggregated across racial groups.

[3]Ever-married women who are widowed, divorced, or separated are similar to single women in that there is no spouse present, and similar to currently married women in that they may have children present. Unfortunately, there were not enough of these women in the sample to allow estimation of a separate model for widowed, divorced, or separated women. For the analysis they were included with currently married women at each wave.

[4]No attitudinal or social-psychological variables were assessed at wave C. Furthermore, variables that were assessed had no appreciable effects net of effects of the same variables assessed at earlier and later waves.

[5]Some of the original 95 fields were subdivided further in later waves. In subsequent waves, fields were aggregated back to the original 95 in order to obtain comparability in measurements across waves.

[6]Conceptually and methodologically, it is important to have a consistent, standardized scale in order to assess continuity and change in career deviance across the five waves. For this reason, it was decided not to reconstruct the scale at waves B, C, D and E by using the percentage of females in the 95 fields in waves B, C, D and E respectively.

[7]In assessing the decline over time in career involvement, it should be noted that the figures within the second and third columns refer to different subpopulations of women across waves (as single women in earlier waves become married women in later waves). However, if the trends for career involvement are examined among the 257 single women at wave E and among the 1,405 married women at wave E nearly identical results are obtained:

	Percent Career Involved	
	Single Women at Wave E	Married Women at wave E
1962	94.6	82.8
1964	94.8	59.5
1968	81.9	30.4

[8]The career sex-atypicality or career deviance scales that are scored from 2 to 8 for career-involved women were scored as 0 for non-career-involved women in waves B, D, and E (e.g., DEVB is 0 when INB is 0). Thus, retaining INB in regression equations where DEVB has an effect, and similarly for DEVD and IND.

[9]The number of cases indicated in Tables 4A through 6B refer to the number of cases with data present in the dependent variables. Consequently, the subpopulation sample sizes are not always identical to corresponding figures in Tables 1 and 3.

[10]The effects of earlier career involvement are confounded with earlier career deviance. Consequently, no interpretation can be placed upon INB and IND in Tables 6A and 6B. It should be noted, however, that a woman not career-involved in an earlier wave can have no return to career sex-atypicality in that wave.

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