Career Interrupted For What Reason? Job Interruptions And Their Wage Effects

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ABSTRACT

This paper examines whether controlling for the type of career interruption has different effects on men's and women's wages. One argument for the persistence of the gender wage gap is that previously researchers have used poor measures of experience to estimate men's and women's wages. This paper extends the career interruption literature by estimating men's and women's wages including controls for both the type and timing of interruptions. Findings show similar wage effects for men's and women's wages while controlling for the type of interruption. These results are consistent with the basic human capital model, but are inconsistent with previous empirical research.

Keywords: Career Interruption; Wage Effects

INTRODUCTION

Although the wage gap between men and women has decreased overtime, its persistence still perplexes many. Polachek (2004) explained that the gap has narrowed because more married women have entered the labor force over the years, from 4.6% in 1890 to 61.4% in 2001; while men have been participating less in the labor force. In 1890, women's wages were just more than 30% of men's wages. By 1960, women earned 59 cents for every dollar men made. By 1980, women's wages increased to 63 cents per men's wages, a mere 4-cent gain in 20 years. Women's wages continued to grow relative to men's and in 2001 equaled nearly 80%.

One argument for the persistence of the gender wage gap has been that previously estimators used poor measures of experience. When estimating wage equations, economists have often used potential experience as the conventional measure for experience. Previous research has shown problems with measures of potential experience because most workers do not work continuously after they leave school (Mincer & Polachek, 1974). The career interruption literature has grown considerably over the years and strides have been made in explaining the gender wage gap, although, it has remained persistent (Light & Ureta, 1995; Spivey, 2005).

This paper extends previous research by examining differences in the type of career interruptions and the timing of work experience. Exploiting the richness of the work history information within the NLSY data, this study examines whether different types of interruptions affect wages differently by including controls for the timing and accumulation of experience and interruptions, while also controlling for the type of interruption. Results show that controlling for the type of interruption had similar effects for men and women. The findings of this study conflict with previous research that has found significant and different effects for men and women across types of interruptions. However, the results are consistent with the idea that it is simply the time out of the labor market that affects wages and not the reason a worker leaves.

PREVIOUS LITERATURE

In the past, the roles of training and experience have proved essential in determining workers' wages (Becker, 1962; Mincer, 1962). Traditionally, researchers have used potential experience, defined as total time elapsed since leaving school, as the primary measure of experience. Mincer and Polachek (1974) saw problems with measures of potential experience because most workers do not work continuously after they leave school. The authors remedy this problem by controlling for actual experience, including time spent in and out of work.

The literature extending from Mincer and Polachek's seminal work has grown considerably over the years to include measures of predicted experience as an alternative to potential experience. Previous work has shown using actual experience is preferred over the alternatives, predicted and potential; however, predicted experience is a superior proxy for actual experience than measures of potential experience (Garvey & Reimers, 1980; Filer, 1993; Regan & Oaxaca, 2009).

Mincer and Polachek (1974) were first to consider that workers face wage effects when their careers are interrupted. The authors modified the human capital earnings function to control for interruptions by measuring experience as periods of work and nonwork that occur throughout a worker's career. Extending their work, Light and Ureta (1995) contributed to the literature by introducing their work-history model. They more accurately measured experience by controlling for its timing. The work-history model measures experience as the fraction of weeks worked in a year, beginning at the start of a career. Measuring experience in terms of the fraction of weeks worked is potentially a better measure than using cumulative number of years, because it better captures the timing of experience. The authors found that 12% of the raw gender-wage gap is explained by differences in the timing of experience, and up to 30% is because of differences in returns to experience.

Spivey (2005) updated Light and Ureta's work by using the 1979 NLSY, which includes more comprehensive data and a longer time span compared with earlier NLS cohorts. She contributed to the literature by examining whether the expectation of a future interruption affects current and future wages and how the effect might differ for men and women. She measured actual work experience as the fraction of weeks worked by calendar year and found that the timing of experience explains only 0.6% to 2% of the gender wage gap.¹

The above studies have found the timing of work experience to be important and therefore, should be controlled for in the estimation of wage equations. However, another branch of the career interruption literature deviates from the timing of work experience and the timing of career interruptions altogether, choosing instead to focus on the type of career interruptions. There is evidence, mostly using international data, that controlling for the type of interruptions could help explain gender wage differences (Albrecht et al., 1999; Beblo & Wolf, 2002; Gorlich & Grip, 2007; Kunze, 2002).²

A priori, it is unclear whether controlling for the type of interruption would affect men and women's wages differently. Human capital theory suggests that when individuals spend time out of work, their skills depreciate, and thus they suffer negative wage effects (Mincer, 1974). The general human capital model predicts that controlling for the type of interruption would not affect men and women's wages differently because both genders would suffer eroded skills with time spent out of work, whatever the reason.

Obviously fundamental differences exist between the types of interruptions men and women encounter. For example, women are more likely than men to exit the labor force to bear and raise children. Becker (1985) discussed the impact that family-related interruptions can have on women's wages. Becker's effort model showed that housework and childcare are energy intensive; therefore, all else equal, when women reenter the market, they will have less energy than men will have because women bear the additional responsibilities of keeping house and caring for children. Becker's model predicts that women's wages will be affected by family-related interruptions but not affected by other types of interruptions.

Studies like those of Light and Ureta (1995) and Spivey (2005) have shown that timing matters for estimating wage equations; however, controlling for timing has not eliminated gender differences in wage penalties resulting from interruptions. It is unclear why these differences persist once controls for the timing of experience and interruptions have been included. Why would interruptions differently affect the wages of men and women if they occur at the same time in an individual's career?

One explanation is that men and women interrupt their careers for different reasons. If wage effects vary by gender and type of interruption, then gender differences in wages decline by controlling for both the type and timing

¹For Spivey's more recent cohort the timing of experience is not as important for explaining gender wage differences.

²Mincer and Ofek (1982) find different types of interruptions affect wages differently for American workers; although, their sample is limited to white females.

of an interruption. To illustrate this point more clearly, imagine a woman in the sixth year of her career who exits the labor force to have a baby. Now, imagine a man also six years into his career who has been laid off. Assuming all else equal, is it logical to believe these two individuals who interrupted their careers for drastically different reasons would experience equal wage effects?

This paper contributes to the career interruption literature by extending the work history model to control for the type of career interruptions for American workers. Exploiting the richness of the work history information within the 1979 National Longitudinal Survey of Youth (NLSY) data, this study examines whether the type of interruption has different effects on wages. Using the NLSY, this paper distinguishes between the reasons men and women exit the labor force, thus providing insight to the following questions. First, do men and women interrupt their careers for the same reasons? If not, which interruptions are more prevalent for a woman's career and which are more prevalent for a man's? Second, is the wage penalty equal when men and women experience the same type of interruption (both are either out of the labor force because they are unemployed, or they are caring for children, etc.)?

DATA AND METHODOLOGY

This paper uses data from the 1979 NLSY's representative sample that included survey years 1979 through 2004.³ The NLSY first surveyed respondents in 1979 when they were 14 to 22-years-old. The survey was administered every year through 1994; thereafter, it has been administered every other year.

The cross-sectional sample included 6,111 youths—49% males, 51% females. Because the main concern is differences in male/female wages, all nonwhites are dropped to eliminate possibilities of racial differences in earnings. The final sample included 2,432 white men and 2,461 white women.

Using these data conferred many advantages. First, the work-history data contained weekly arrays that provided information on respondents' labor force status, number of hours usually worked, and number of jobs held. Second, respondents reported labor force activity for the entire time they participated, including non-survey years. Furthermore, respondents who missed an interview were interviewed later and asked to report their work experience since their previous interview. Finally, the NLSY acts as a rich source for measuring work experience including number of weeks worked in the past calendar year, number of weeks worked since last interview, hours worked in past calendar year, and hours worked per week.

The specification of interest is the work-history model. Light and Ureta (1995) defined the work-history model as a measure that controls for differences in the amount of accumulated work experience and the time it was accumulated. The work-history model measures experience in terms of the fraction of weeks worked, beginning at the start of a career. The start of a career is defined as the first year the respondent was at least 18-years-old and not enrolled in school or the first year the respondent was at least 18-years-old and worked more than 30-hours-a-week for more than 44 weeks of the year (regardless of enrollment status).⁴

Key variables in the work-history model are the fraction-of-weeks-worked variables. The fraction-of-weeks-worked variables are denoted as $frcwkswrkd_{T-1}$, $frcwkswrkd_{T-2}$, $frcwkswrkd_{T-j}$, where $T-j$ indicates the year an individual started a career. The interpretation of these variables is straightforward: $frcwkswrkd_{T-1}$ measures the fraction of time spent working one year ago, $frcwkswrkd_{T-2}$ measures the fraction of time spent working two years ago, $frcwkswrkd_{T-j}$ measures the fraction of time spent working j years ago.⁵

Utilizing detailed data in the 1979 NLSY, wage effects are examined across various types of interruptions for men and women. The first type of interruption came from the coding options respondents had for leaving their jobs. This first set of interruptions is referred to as "NLSY interruptions" throughout the remainder of the paper. A

³ Survey years prior to 1984 were omitted because a key variable's code was changed in earlier survey years.

⁴ This paper follows Spivey (2005) in defining the start of a career.

⁵ Note that work experience is not defined until the respondent's career had started; therefore, in the analysis j 's maximum value was 26. For example, if a respondent started a career in 1979, then work experience could be observed for as many as 26 years. However, if a respondent did not start until 1981, a respondent could be observed for a maximum of 24 years of work experience.

NLSY interruption included incidents in which respondents spent at least a week not working and then changed employers when they returned to work.⁶ Reasons for NLSY interruptions included layoffs, plant closings, temporary employment endings, firings, program endings, family reasons, or *other*, which included reasons that did not fit into the previous categories. A final NLSY interruption category, *unassigned*, was given to those interruptions that could not be assigned a NLSY interruption.⁷

When examining wage effects between men and women, the family-related interruption is considered to be especially important because women often leave work when they have children. The problem with focusing attention on family-related interruptions is that the category includes a multitude of possibilities, and it is unclear exactly what situations respondents consider to be family-related interruptions when they chose this response. Because the NLSY family-related interruption significantly lacks detail, changes in family composition are examined to better identify this interruption. This led to the second category: family composition interruptions, which includes having children, marrying for the first time, separating, divorcing, reuniting, remarriage, or becoming widowed.⁸ A category was created for all other time out of work, *other-family*, that could not be attributed to a change in family composition. These two different interruption categories were used to estimate wage equations for men and women.

Table 1 broke NLSY interruptions into category and type, providing a snapshot of these interruptions. Table 1 showed the number of individuals as of 2004 who had work stoppages because of NLSY interruptions. Table 1 shows that men and women were very similar with respect to the number of certain types of interruptions: plant closings, program endings, and firings; but they appeared quite different with respect to certain types of interruptions. For example, the data showed that men experienced more work pauses because of layoffs. Not surprisingly, women experienced 12 times more disruptions than men because of family reasons.

Table 1: Number and Percent of NLSY Interruptions, by Gender

	All		Men		Women	
Layoff	1087	12%	633	15%	454	9%
Plant closed	380	4%	185	5%	195	4%
End Temp Employment	859	9%	413	10%	446	9%
Fired	549	6%	277	7%	272	5%
Program Ended	215	2%	100	2%	115	2%
Family	836	9%	65	2%	771	15%
Other	2918	32%	1320	32%	1598	32%
Unassigned	2304	25%	1117	27%	1187	24%
Total	9148	100%	4110	100%	5038	100%

Table 2 showed the number of individuals as of 2004 who had positive time out of work because of a change in family composition. For men, having children made up 30% of all family composition interruptions. For women, having children accounted for 70% of all interruptions. Stoppages that resulted from becoming widowed, married, remarried, divorced, separated, or reunited accounted for a fairly small percentage of all time spent out of work by men and women. As is the case with NLSY interruptions, the *other-family* category was a large category of all family composition interruptions for men and women; the *other-family* category made up 42% of all interruptions for men and a fourth of all interruptions for women.

⁶The NLSY records as many as four interruptions per survey round.

⁷ All unassigned interruptions occurred due to the change in the key variable's coding in earlier years.

⁸ Family composition interruptions are conditional on the respondent having experienced a family-related NLSY interruption.

Table 2: Number and Percent of Family Composition Interruptions, by Gender

	All		Men		Women	
Marry	12	1%	3	5%	9	1%
Separated	13	2%	2	3%	11	1%
Divorced	16	2%	8	12%	8	1%
Reunited	5	1%	1	2%	4	1%
Remarried	15	2%	3	5%	12	2%
Widowed	2	0%	1	1%	1	0%
Kids	553	66%	20	30%	533	69%
Other Family	220	26%	27	42%	193	25%
Total	836	100%	65	100%	771	100%

Note: For respondents who had more than one family interruption and had a child since the last interview their family related interruption was counted as a “kid” interruption.

Several variations of the wage equation were estimated. The fraction-of-weeks-worked variables ($frcwkswrkd_{T-1}$ – $frcwkswrkd_{T-10}$) measured the fraction of weeks worked one year ago, two years ago ... up to ten years in the past. The eleventh fraction-of-weeks-worked variable ($frcwkswrkd_{T-11+}$) was the average fraction of weeks worked for eleven years ago through the start of a career. The basic model estimated is given by:

$$\ln(\text{hourly wage})_{it} = \alpha + \beta_1 X_{it} + \beta_2 Z_{it} + u_{it}$$

where $u_{it} = v_i + \varepsilon_{it}$

The dependent variable is the log of hourly wages, for person i at time t .⁹ All regressors varied over time and person. The X vector denoted the regressors that measured experience, while Z consisted of all other variables. Other variables included part-time work, marital status, number of children, local unemployment rate, rural or urban residence, school-enrollment status, region of residence, and education dummies.¹⁰ The error term U consisted of an individual specific and random component; the two components were assumed random (zero mean and constant variance). To control for the concern that the individual component in the error term was likely to be correlated with some of the independent variables, an individual fixed effect was included in the regression model.

The first specification, the basic-work-history model, includes the fractions-of-weeks-worked variables.¹¹ The fractions-of-weeks-worked variables capture both the amount of work experience gained in a year, as well as the timing of when the work experience was accumulated with respect to the start of an individual’s career. The basic-work-history model allows each year of work experience to have a different effect on wages going back to the start of one’s career. The second specification extends the basic work-history model by including the fractions-of-weeks-worked variables and cumulative time out of work. In this specification, the timing and accumulation of work is experience is still controlled for, as well as cumulative time spent out of work.

The third specification, the work-history model with NLSY interruptions, includes the fractions-of-weeks-worked variables and cumulative measures for time out of work by type of NLSY interruption. In this specification, the timing and accumulation of work is experience is still controlled for, as well as cumulative time spent out of work by type of NLSY interruption. The main objective behind the third specification is to examine whether or not controlling for the different types of NLSY interruptions yields different wage penalties. The fourth specification includes the fraction-of-weeks-worked variables and NLSY and family composition interruptions. The main objective behind the fourth specification is to examine whether or not controlling for the family related NLSY interruption using more detailed changes in family composition yields different wage penalties.

Table 3 describes the percentage of respondents who worked more than X% of the time after the start of their career, by gender and educational attainment. The fraction of time spent working was defined as the total number of weeks worked from the start of a career through 2004; then the total number of weeks worked was

⁹ All dollars have been adjusted for inflation using the Consumer Price Index and are measured in 2000 dollars.

¹⁰ Part-time was defined by the sum of hours worked per year by all jobs divided by 52, equal to 1 if less than 30, and zero otherwise.

¹¹ Additional specifications were considered including the basic Mincer model and the work-history model with interruption dummies. Estimation results were consistent with previous work although, the results are not presented in this paper.

divided by the total number of weeks since the start of a career through the end of the survey. Following Spivey (2005), educational attainment was evaluated using the highest grade completed in 1994.¹² In 1994, respondents were ages 29 to 37 and were likely to have completed their education. The results from Table 3 showed that the women in the sample worked less than the men and took longer to accumulate the same amount of experience.

Table 3: Percentage of Respondents Who Work More than X% of the Time after the Start of Their Career, by Gender and Schooling Level in 1994

Group	10%	30%	50%	70%	90%
Women	98	91	78	61	32
Less than High School	91	75	50	26	5
High School	99	92	79	56	28
Some College	100	96	85	68	37
College Graduates	99	96	87	73	44
Graduate School	100	97	91	80	47
Men	99	98	94	85	56
Less than High School	99	96	88	69	35
High School	99	97	94	84	55
Some College	99	98	94	83	54
College Graduates	99	99	98	96	73
Graduate School	100	99	98	94	65

Using the earlier cohorts of NLS data, Light and Ureta (1995) showed that men and women in different cohorts accumulated different amounts of experiences in their early careers. They found that younger women worked a larger fraction of time than older women; 19% of the earlier-birth cohort worked more than 90% of the time during ages 24 to 30; 31% of the later-birth cohort worked that much. Men, young and old, worked a large fraction of their time; 67% of the later-birth cohort worked more than 90% of the time compared with 77% of the earlier-birth cohort. Also using the NLSY data, Spivey (2005) split her sample by gender and education level in 1994. Her sample showed that half of the men worked more than 90% of the time, while only 30% of the women worked more than 90% of the time. In contrast this sample shows 32% of the women worked more than 90% of the time after starting their careers. For men, this number was significantly larger: 56% worked more than 90% of the time after starting their careers.

Table 3 also shows that the amount of time worked increased with rising education levels for men and women, a result consistent with past studies (Light & Ureta, 1995; Spivey, 2005). However, this finding did not hold true for men in graduate school, who were observed working less than men with college degrees. Spivey (2005) attributed this oddity to male graduate students who could have still been enrolled in school in 1994.¹³ Results from Table 3 suggest that potential experience would overstate actual experience for many in the sample, but that the exaggeration would be more severe for women.

RESULTS

Table 4 and Table 5 report the average total number of weeks of interruptions by type and gender, conditional on respondents having experienced at least one interruption of that type by 2004. Table 4 shows women experience an average total number of weeks out of work greater than men, regardless of the type of NLSY interruption. Women were out of work an average total number of weeks for family interruptions that was three times longer than men. Table 5 shows that women had an average total number of weeks out of work more than men using the family composition variables. Again average total number of weeks out of work to have children lasted longer for women.

¹² Spivey (2005) chose education levels in 1994 because fewer than 5% of respondents were enrolled in school and fewer missing values appeared in 1994 than in later years.

¹³ At first glance the percentage of male respondents working more than 90% of their potential career may seem low, especially, when considering males in graduate school. This could be due to the way the start of an individual's career is defined. If a respondent starts his or her career and later returns to school, this time spent in school is counted as not working.

Table 4: Average Length of NLSY Interruptions (in weeks)

	All	Men	Women
Other	99	73	121
Layoff	61	56	67
Plant Closed	49	39	59
End Temporary Employment	73	57	88
Fired	65	61	70
Program Ended	49	36	61
Family	142	53	150
Unassigned	79	70	87
Total	77	56	88

Table 5: Average Length of Changes in Family Composition (in weeks)

	All	Men	Women
Kids	149	64	152
Marry	48	15	52
Separated	78	32	83
Divorced	79	37	88
Reunited	48	7	51
Remarried	67	33	76
Widowed	45	63	36
Other Family	74	40	78
Total	74	36	77

Table 6 and Table 7 present the percentage of respondents experiencing interruptions by gender and education level in 2004. Table 6 shows that more-educated workers were less likely than less-educated workers to experience interruptions because of layoffs, plant closings, or firings. Similarly, more-educated workers were more likely than less-educated workers to have work intermissions because they left temporary employment or a program ended. Table 7 shows that more-educated female workers were less likely than less-educated female workers to interrupt their careers to have children. More-educated workers are also less likely to pause their careers because of separation or divorce.

Table 6: Percentage of Respondents Not Working, by NLSY Interruptions

Group	Layoff	Plant Closed	End Temp	Fired	Program End	Family	Other	Unassigned
Women	20	8	21	13	6	33	72	51
Less than High School	22	9	15	22	2	37	78	72
High School	25	13	15	14	3	39	68	60
Some College	23	8	18	16	3	37	71	51
College Graduates	15	5	27	8	10	28	70	35
Graduate School	13	4	30	4	11	24	72	39
Men	30	9	22	12	6	4	68	39
Less than High School	47	17	18	17	3	8	80	6
High School	36	10	15	17	3	4	59	63
Some College	33	11	18	14	5	4	61	61
College Graduates	18	8	24	8	5	0	66	34
Graduate School	16	1	33	2	16	3	72	29

Table 7: Percentage of Respondents Not Working, by Changes in Family Composition

Group	Kids	Marry	Separated	Divorced	Reunited	Remarried	Widowed	Other Family
Women	65	4	4	6	1	3	0	43
Less than High School	46	5	10	10	3	8	0	56
High School	71	4	6	7	1	5	1	41
Some College	75	3	4	7	1	1	0	33
College Graduates	64	7	1	4	1	2	0	41
Graduate School	68	3	0	3	0	0	0	42

Table 7 cont.

Men	24	3	4	13	1	7	0	46
Less than High School	27	0	9	36	0	9	0	46
High School	33	17	13	8	4	13	0	42
Some College	29	0	0	21	0	14	0	57
College Graduates	0	0	0	0	0	0	0	0
Graduate School	33	0	0	0	0	0	0	83

Results from Tables 4-7 are consistent with expectations. For a number of NLSY interruptions where differences are not expected to exist between men and women they are observed to be quite similar: firings, layoffs, and unassigned interruptions. Likewise apparent differences exist between men and women where differences are expected to exist in the types of interruptions men and women encounter. Overall, women are found more often than men interrupting their careers due to changes in family composition and stay out of work longer than men when experiencing such interruptions. Table 8 and Table 9 present person and year fixed-effects estimates from the various specifications.¹⁴ Regressions were run separately for men and women. Table 10 presents the results from *F*-tests on the types of interruptions. Figures 1 through 3 illustrate the predicted wage-experience profiles for men and women.¹⁵

The basic-work-history model includes the fraction-of-weeks-worked variables, thereby controlling for the timing of experience. The timing of work experience is found to matter in estimating the wage equation. The previous year's work experience was found to have the most influence on workers' wages in the current period. For men, the effect from the previous year's work experience on workers' wages in the current period was 30% larger than the effect from work experience two years ago. For women, the effect from the previous year's work experience on workers' wages in the current period was two times larger than the effect from work experience two years ago. Figure 1 illustrates that, using the basic-work-history model, men receive higher returns to experience than do women.

Figure 1: Predicted Wage Profiles for Men and Women: Basic Work History Model and Work History Model and Nonemployment

¹⁴ Coefficients and standard errors are presented only for experience variables and interruption variables, all other coefficients and standard errors are available upon request.

¹⁵ Wage-experience profiles are partial predictions of the log of hourly wage on various experience measures.

Table 8 also presents estimates from the work-history model and non-employment. The timing and accumulation of work is experience is still controlled for using the fraction of weeks worked variables, as well as cumulative time spent out of work. Results showed that controlling for the total time out of work had no additional effect on men's wages once controls were included for the timing and accumulation of work experience. However, after controlling for the timing and accumulation of work experience total time out was found significant and positive for women's wages.¹⁶

Table 8: Fixed Effects Estimates of Wage Equations Using the Work History Model, 1984-2004

	Specification 1		Specification 2	
	Men	Women	Men	Women
Frcwkswrkd _{T-1}	0.172** (0.023)	0.203** (0.018)	0.177** (0.023)	0.208** (0.018)
Frcwkswrkd _{T-2}	0.119** (0.025)	0.079** (0.019)	0.123** (0.025)	0.079** (0.019)
Frcwkswrkd _{T-3}	0.131** (0.025)	0.085** (0.019)	0.134** (0.025)	0.093** (0.019)
Frcwkswrkd _{T-4}	0.015 (0.025)	0.082** (0.019)	0.018 (0.025)	0.083** (0.019)
Frcwkswrkd _{T-5}	0.111** (0.024)	0.043* (0.019)	0.113** (0.024)	0.048** (0.019)
Frcwkswrkd _{T-6}	0.034 (0.023)	0.049** (0.018)	0.035 (0.023)	0.051** (0.018)
Frcwkswrkd _{T-7}	0.083** (0.021)	0.009 (0.018)	0.083** (0.021)	0.013 (0.018)
Frcwkswrkd _{T-8}	0.045* (0.021)	0.036* (0.017)	0.045* (0.021)	0.036* (0.017)
Frcwkswrkd _{T-9}	0.039* (0.020)	0.049** (0.017)	0.039* (0.020)	0.052** (0.017)
Frcwkswrkd _{T-10}	0.032 (0.017)	0.024 (0.015)	0.031 (0.017)	0.025 (0.015)
Frcwkswrkd _{T-11+}	0.221** (0.028)	0.150** (0.029)	0.215** (0.029)	0.145** (0.029)
Non-employment			0.00021 (0.00011)	0.00045** (0.00007)
R ²	0.06	0.06	0.06	0.07
N	15,322	14,863	15,322	14,863

Note: Estimates include person and year fixed effects. Standard errors in parentheses; * significant at 5%; ** significant at 1%.

Table 9 presents estimates from the work-history model with NLSY interruptions. The interruption variables are cumulative measures for time spent out of work by type of NLSY interruption. Results showed that controlling for the type of disruption had no additional effect on wages. Women's wages seem to have been influenced more by the type of interval, but any impact was appreciably small.

Table 9: Fixed Effects Estimates of Wage Equations Using the Work History Model and Interruption Type, 1984-2004

	Specification 3		Specification 4	
	Men	Women	Men	Women
Frcwkswrkd _{T-1}	0.180** (0.023)	0.202** (0.018)	0.185** (0.023)	0.203** (0.018)
Frcwkswrkd _{T-2}	0.123** (0.025)	0.076** (0.019)	0.123** (0.025)	0.076** (0.019)
Frcwkswrkd _{T-3}	0.136** (0.025)	0.092** (0.019)	0.138** (0.025)	0.093** (0.019)
Frcwkswrkd _{T-4}	0.017 (0.025)	0.084** (0.019)	0.018 (0.025)	0.083** (0.019)

¹⁶The small increase in women's wages from total time spent out of work could be reflective of a large number of women returning to school; although, this interruption type is not controlled for in this study.

Table 9 cont.

Frcwkswrkd _{T-5}	0.116** (0.024)	0.049* (0.019)	0.119** (0.024)	0.049** (0.019)
Frcwkswrkd _{T-6}	0.034 (0.023)	0.050** (0.018)	0.033 (0.023)	0.049** (0.018)
Frcwkswrkd _{T-7}	0.084** (0.021)	0.014 (0.018)	0.088** (0.021)	0.015 (0.018)
Frcwkswrkd _{T-8}	0.044* (0.021)	0.037* (0.017)	0.046* (0.021)	0.036* (0.017)
Frcwkswrkd _{T-9}	0.040* (0.020)	0.052** (0.017)	0.043* (0.020)	0.052** (0.017)
Frcwkswrkd _{T-10}	0.031 (0.017)	0.028 (0.015)	0.031 (0.017)	0.027 (0.015)
Frcwkswrkd _{T-11+}	0.215** (0.029)	0.150** (0.029)	0.228** (0.028)	0.151** (0.029)
Layoff	-0.00002 (0.0003)	-0.001** (0.0002)	-0.00003 (0.0003)	-0.001** (0.0002)
Plant Closed	-0.0002 (0.001)	0.001 (0.0004)	-0.0003 (0.001)	0.001 (0.0004)
End Temp	-0.00002 (0.0004)	0.001** (0.0003)	-0.00002 (0.0004)	0.001** (0.0003)
Fired	-0.0004 (0.0003)	-0.0001 (0.0003)	-0.0004 (0.0003)	-0.0002 (0.0003)
Program Ended	-0.002 (0.002)	0.002** (0.000)	-0.001 (0.002)	0.002** (0.0004)
Family	0.001 (0.001)	0.000* (0.000)		
Other	0.000* (0.000)	0.001** (0.000)	0.001** (0.0002)	0.001** (0.0001)
Unassigned	0.001 (0.001)	0.001 (0.001)	0.001** (0.0002)	0.001 (0.001)
Kids			0.002 (0.001)	0.0004 (0.0002)
Marry			0.009 (0.017)	0.004 (0.004)
Separated			0.010 (0.043)	0.0002 (0.001)
Divorced			0.001 (0.003)	0.002 (0.001)
Reunited			-	-
Remarried			-0.003 (0.003)	0.001 (0.001)
Widowed			-0.001 (0.007)	-0.006 (0.010)
Other Family			0.003 (0.002)	0.0002 (0.0003)
R ²			0.05	0.07
N			15,322	14,863

Figure 2 shows that men received similar returns to experience from the basic-work-history model and the work-history model with NLSY interruptions. Figure 2 also shows women received higher returns to experience using the work history model with NLSY interruptions in earlier years than the basic-work-history model; although the difference in returns diminished with greater years of experience.

Figure 2: Predicted Wage Profiles for Men and Women: Basic Work History Model and Work History Model with NLSY Interruptions

These observations are consistent with the finding that NLSY interruptions were not important in determining wages. Although results found no indication that the NLSY interruptions affected wages independently, a test of joint significance was performed to see whether they affected wages as a group. For men, results from a test of joint significance on the NLSY interruption variables yielded a p -value of .2077; and therefore were found insignificant as a group. For women, a test of joint significance yielded a p -value equal to .0000, which indicated that NLSY interruptions were significant at the 1% level.¹⁷

The general conclusion from these results is that controlling for the type of interruption does not additionally affect individual's wages. It is unclear why the family related NLSY interruption was insignificant for men and appreciably small for women in the previously mentioned specification. It could be that the family related NLSY interruption does not measure what it was intended to capture because it lacks precision. The documentation shows uncertainty as to what respondents consider family reasons for being out of work. To better measure the NLSY family reason, additional controls were included to measure changes in family composition that were observed in the data.

Table 9 presents estimates from the work-history model with NLSY and family composition interruptions. The results are very similar to those found using the third specification. Table 9 shows men received similar returns to experience from the work history model with NLSY interruptions and the work-history model with NLSY and family composition interruptions. Although the family composition interruptions were not found to independently affect wages, a test of joint significance was performed to see whether they affected wages as a group. For men, a test of joint significance on the family composition variables yielded a p -value of .2810; therefore, family composition interruptions were found insignificant as a group at the 1% level. For women, a test of joint significance yielded a p -value of .0000, indicating that as a group the family composition interruptions were important in determining wages.

¹⁷Since most NLSY interruptions were found independently insignificant but as a group found jointly significant it could be that one of the eight variables is economically meaningful in determining wages. Therefore, in future work I plan to explore a more parsimonious specification to determine if this is in fact the case.

Table 10: Results from F-test for Joint Significance

	Men	Women
Work History Model with NLSY Interruptions	0.2077	0.0000
Work History Model with NLSY and Family Composition Interruptions	0.281	0.0000

Note: P-values are reported.

Figure 3: Predicted Wage Profiles for Men and Women: Work History Model with NLSY Interruptions and Work History Model with NLSY and Family Composition Interruptions

CONCLUSION

Although researchers have made strides in explaining the wage gap, it has yet to be eliminated. Previous work (Light & Ureta, 1995; Spivey, 2005) has considered the importance of controlling for the timing of work experience and interruptions when examining gender wage differentials. Extending from previous work in estimation of male and female wage equations, this study delves further by controlling for the type of interruption.

Before beginning this study, it was unclear whether controlling for the type of interruption would affect wages differently. Human capital theory attributes negative wage effects from interruptions to the depreciation of skills while time is spent out of work (Mincer, 1974). The general human capital model predicted that controlling for the type of interruption would not affect wages differently, since both men and women will experience skill erosion with time spent out of work, irrespective of the type of interruption.

Clearly, fundamental differences exist between the types of interruptions men and women will encounter in their lifetime. Becker's effort model (1985) predicted that family interruptions (i.e., for housework and childcare) are more energy intensive; therefore, women who bear the responsibility of keeping the house and caring for children will have less energy than men when they reenter the market, all else equal. Becker's theory that women's wages are affected by these family related interruptions but not affected by other interruptions, would suggest that controlling for the type of interruption may yield different wage penalties for men and women.

This study sought after and provided answers to the following questions. First, do men and women interrupt their careers for the same reasons? The findings of this study showed that men and women differed in certain types of career interruptions they experienced; although, they looked quite similar with regard to other interruption types. Women often interrupted their careers to have children or for other family reasons. On the other hand, men experienced career interruptions due to layoffs more often than women. Men and women looked similar for a number of other types of interruptions they experienced, for example, ending temporary employment. Second, when men and women are found experiencing the same type of interruption, (both are either out of the labor force, unemployed, or taking care of kids, etc.) is the wage penalty equal? Men and women were found experiencing a similar penalty for similar interruptions.

This study examines which model holds up – Becker’s or Mincer’s – in answering the research question, “Does controlling for the type of career interruption yield different wage penalties for men and women?” The findings reveal that controlling for the type of interruption does not have different effects on men’s and women’s wages. This finding that different types of job interruptions have similar wage effects is consistent with basic human capital theory in which only the time away from work matters. However, this finding is inconsistent with previous empirical literature.

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