THE MOMMY TRACK:

JOB PLACEMENT AND THE WAGES OF WORKING MOTHERS*

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ABSTRACT

This study investigates the role of job search strategies in explaining the well-documented wage penalty for motherhood. Prior research has shown that mothers earn significantly lower wages than other women even after controlling for work experience, job characteristics, and family structure. Though studies have shown that childrearing constrains the social networks of women, we know little about whether motherhood affects the channels by which women obtain jobs. Motherhood could impede the accumulation of both personal and institutional ties that affect longer-term earnings. Using data from the Youth Development Study, a prospective study of Midwestern teenagers from 1988 to 2004, this study estimates the relationships of within-individual changes in hourly wages to motherhood, job search, and other explanatory variables. Although job search does not explain the pay gap between mothers and other women, the effect of motherhood on wage attainments is conditioned by job contacts. Women pay less of a "family penalty" for motherhood when they find jobs through friends. By contrast, women with (more) children experience a decline in their hourly pay when jobs are obtained though employers, whereas non-mothers increase their wages by 8 percent when their employers tell them about new jobs. The results suggest that women on the "mommy track" obtain jobs through their employers that are significantly lower in wages than women who remain childless.

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The negative effect of motherhood on wage attainments is well-documented (Waldfogel 1997; 1998a; 1998b; Budig and England 2001; Korenman and Neumark 1992; Neumark and Korenman 1994; Lundberg and Rose 2000; Kalleberg, Reskin, and Hudson 2000). The hourly wages of mothers are approximately 6 to 7 percent lower (per child) than non-mothers. This "family penalty" for motherhood is not entirely explained by differences between mothers and non-mothers in their work experience, job type (i.e., whether mothers are more likely to work in "mother-friendly" jobs), family structure, or other unobserved characteristics that may affect both family formation behaviors and labor market outcomes. Budig and England (2001) and England (2005) speculate that the remaining effect of motherhood on wages is likely due to either employer discrimination or to differences between mothers and other women in work effort. Mothers may be triaged into low wage jobs because employers perceive mothers as less productive or less committed to their careers. Alternatively, mothers may choose to work in jobs that involve low demands and require little effort (but also low pay) because women are the primary caregivers during childrearing (Sayer, Bianchi, Robinson 2004; Perry-Jenkins, Repetti and Crouter 2000).

This study examines whether job contacts can explain the wage penalty for motherhood. Motherhood could impede the accumulation of both personal and institutional ties that affect earnings. For instance, parenthood has been shown to restrict the social networks of women, as mothers discuss important matters less often and with fewer people than non-mothers (Munch, McPherson, and Smith-Lovin 1997). Since

informal job contacts have been shown in some studies to affect labor market outcomes (Granovetter 1995; Lin 1999; but see Mouw 2003), especially during the early occupational career (Rosenbaum 2001), the "family penalty" for motherhood could be mediated by the informal contacts mothers and non-mothers use to find jobs (Campbell 1988). Employer discrimination could also affect the hiring, promotion, and firing of working mothers (Correll and Benard 2005). Women on the "mommy track" (Schwartz 1989) may be less likely to achieve higher ranks within a company if employers perceive mothers as less committed to their careers or productive in their jobs than non-mothers.

To address these unresolved issues, longitudinal data are drawn from the Youth Development Study, a prospective panel of 1,010 youth who were initially residing in St. Paul, Minnesota during the Fall of 1987. Over a thirteen-year period (from ages 18 to 31), this study estimates the relationships of within-individual change in hourly wages and motherhood, work experience, family structure, job type, local-labor market conditions, and educational achievement. Though the study focuses on whether the effect of motherhood on wage attainments is explained by changes in sources of job information (e.g., friends, relatives, school, employers, direct, or civil-service examinations), I also consider whether motherhood affects the importance placed on finding a job that is easy.

EXPLANATIONS OF THE WAGE PENALTY FOR MOTHERHOOD

Budig and England (2001) offer several explanations for why motherhood is inversely related to wages. A primary reason is that motherhood disrupts the development of human and personal capital. Mothers are paid less than non-mothers because they have deficient work histories or because they lack personal characteristics that benefit earnings (e.g., motivation, effort, or commitment). An alternative explanation is that mothers

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willingly work in jobs that are low in pay because they are "mother-friendly" (e.g., occupations that require little effort, work arrangements that are flexible or limited in hours, etc.). The next section reviews the impressive body of research that has considered these factors as explanations of the family penalty for motherhood.

Though we know that childrearing affects the social networks of women, we know little about whether motherhood affects the channels by which women obtain jobs. Motherhood could impede the accumulation of both personal and institutional ties that affect longer-term earnings. I consider each of these perspectives below.

MOTHERHOOD AND CAPITAL DEFICITS

According to human capital theory (Becker 1985; Becker 1991), parenthood diminishes the earnings of mothers because childrearing impedes the development of human capital. Motherhood detracts from time that could be spent developing job skills, furthering education, or gaining experience in the workforce. Mothers are paid less than other women because they have fewer skills and less experience to offer employers.

Mothers do acquire fewer years of schooling and less work experience than other women. For instance, among women in the National Longitudinal Study of Youth (NSLY79), mothers report five fewer months of full-time work experience and approximately one less year of education than do childless women. However, the job seniority of mothers equals or exceeds that of childless women (Budig and England 2001:214). In addition, most employed mothers do not leave the workforce for very long when they have children. The majority of new mothers are employed one month after the birth of their first child and many mothers continue to work in the same job, especially if they are employed full-time (Klerman and Leibowitz 1999). Even among women who

have more than one child there is considerable continuity in the work career both before and after childbirth. Nevertheless, prior work experience, seniority, employment breaks, educational achievement, and student status explain approximately 40 percent of the wage penalty for motherhood (Budig and England 2001).

Motherhood could also affect wages because women who have (more) children have different "tastes" or preferences for work than do women who remain childless. For instance, women who remain childless may have stronger commitments to work or are more motivated to have successful careers than are women who have children. By contrast, women who have children may place a stronger emphasis on family than non-mothers. In fact, it is possible that any preexisting attitude or behavior that affects both family formation and labor market outcomes could account for the pay gap between mothers and non-mothers.

To address whether earnings and motherhood have a spurious relationship, almost all prior research uses a "fixed-effects" analysis strategy with panel data (see Allison 2005). This approach increases confidence in causal inferences by estimating within-individual changes in wages due to motherhood (or number of children) and other time-varying explanatory variables. However, even after controlling for time-stable differences between mothers and other women, as well as time-varying changes in work experience and educational achievement, motherhood is still inversely related to wages (Waldogel 1997).

MOTHERHOOD AND "MOTHER-FRIENDLY" JOBS

An alternative reason why motherhood diminishes wages is because mothers sacrifice their pay for jobs that are compatible with childrearing. For example, mothers

may settle for jobs with low wages if their work schedules are flexible, if the employers provide childcare or insurance benefits, or if the hours of work are part-time. However, nonstandard work arrangements often entail low-quality jobs. Kalleberg and his colleagues (2000) found that mothers, but not fathers, are more likely to work in jobs that offer low pay, no health insurance, and no pensions. However, a characteristic of "bad jobs" is that they often involve work arrangements that are part-time, temporary, or contingent, which some mothers may find appealing.

Even though mothers are more likely to work in part-time jobs than other women, especially if they are married (Waldfogel 1997), why would mothers accept part-time work if it entails low wages and little benefits? One reason may be that part-time work is less demanding and requires less effort than full-time work. According to Becker (1991), women with (more) children have lower wages than other women because childrearing makes women less productive at work. It is well known that women do more housework than men and the gender disparity in domestic labor is greatest among married women who have young children (South and Spitze 1994). Since women are also the primary caregivers of children (Perry-Jenkins, Repetti and Crouter 2000), mothers may be less productive at work than other women because they are conserving energy for their children or because they are already exhausted from combining employment and childrearing. Budig and England (2001) also speculate that mothers may seek jobs that require little effort (but also low pay) in part because of these gender inequities in childrearing and domestic labor.

However, Budig and England (2001) did not find that mothers were employed in occupations that required less effort than those of childless women. In fact, the inclusion

of several indicators of "mother-friendly" occupations and nonstandard work arrangements (e.g., percentage of female workers, part-time work hours, self-employment, etc.) explained very little of the wage penalty for motherhood. However, the authors measured work quality based on the responses of workers from the 1977 Quality of Employment Survey (the work quality scores were averaged by occupation and then merged to the NLSY data set). The work effort of employed women in their study was not directly measured and the measures of work quality were based on an older survey.

The likelihood of working in a "mother-friendly" job may also be conditional on family structure. Past research has shown that the wage penalty for motherhood is greatest among married women who have three or more children (Budig and England 2001). Though women with higher wages and levels of education are more likely to marry (Cherlin 2000; Oppenheimer 1997), marriage tends to increase the wages of women whereas parenthood reduces this wage premium. Married women who become mothers may have more choice to work in a "mother-friendly" job, even if it involves lower wages, because they have the additional financial support of their partners. Especially among single mothers, motherhood may bring with it increased motivation for higher earnings given the economic needs of their children. This may also be true of women whose husbands/partners have low earnings or are unemployed.

MOTHERHOOD AND OCCUPATIONAL PLACEMENT

Little research has addressed whether mothers earn less than other women because motherhood affects both the informal and institutional channels through which women find jobs. According to Granovetter (1995), informal contacts can lead to higher wages through the transmission of information about job opportunities. Casual

acquaintances (i.e., weak ties) are more likely to provide information about new jobs than close friends or relatives (i.e., strong ties). In addition, work contacts that occur earlier in the career can accumulate and lead to better job contacts later in the career, which in turn can increase the chances of finding quality jobs with higher wages.

Though Granovetter's theoretical model predicts greater earnings with the accumulation of informal, non-kin acquaintances, prior research has shown that parenthood constrains the social networks of women. Munch and colleagues (1997) found that women discuss important matters with fewer people (i.e., reduced network size) and talk with those people less often (i.e., decreased contact volume) during the childrearing years. Though women in general are more likely than men to find new jobs through family connections (Callender 1987; Hanson and Pratt 1991), motherhood may also affect the accumulation of informal work contacts. Campbell (1988), using a small cross-sectional sample of white-collar workers, found that women with small children knew fewer people in different occupations than did other women. Though Campbell did not assess whether these differences in job contacts affect earnings, Munch and colleagues (1997) speculated that the changing network structure associated with motherhood could have far-reaching socioeconomic consequences.

Motherhood could also affect the institutional ties women use to obtain jobs. Rosenbaum and his colleagues (Rosenbaum et al. 1999; Rosenbaum 2001) emphasize the importance of institutional job contacts (e.g., schools, employment agencies, etc.) for wage attainments during the early career, especially among disadvantaged youth. For instance, among youth who do not attend college, school contacts have been shown to benefit longer-term earnings, whereas employment agencies increase earnings in the year

immediately following high school (Rosenbaum 2001). Since women and youth from disadvantaged backgrounds are more likely to use institutional contacts to find jobs than are men and those youth from higher socioeconomic backgrounds (Rosenbaum et al. 1999), it is important to assess whether motherhood affects the formal channels women use to find jobs. It is possible that motherhood during the teenage years may increase the chances of using institutional contacts to find work, as welfare reform legislation during the 1990's placed a strong emphasis on the employment of teenage mothers (e.g., the Personal Responsibility and Work Opportunity Reconciliation Act of 1996).

Employer discrimination may also affect the process by which women find jobs. Employers may discriminate against mothers because they suspect mothers are less productive than other women (i.e., statistical discrimination). Alternatively, employers may discriminate against mothers because they dislike mothers in general or they believe their customers will not like mothers (i.e., "taste" discrimination; see Budig and England 2001 for a review of this distinction). Experimental evidence suggests that at least some of the wage penalty for motherhood results from employer discrimination. For instance, Correll and Benard (2005) asked 192 undergraduate students to evaluate fictitious applicants for a marketing position in a communications company. Not only were mothers less likely to be hired, they were offered starting salaries that were $11,000 lower than those of non-mothers. Fathers, in contrast, were offered higher starting salaries than were non-fathers.

In summary, the wage penalty for motherhood is partially explained by work experience, job characteristics, and family structure, as well as preexisting differences between mothers and non-mothers. Though employer discrimination and effort have been

considered as potential explanations of the remaining family penalty, little research has empirically addressed these hypotheses.

METHOD

This study uses a two-level hierarchical model (Raudenbush and Bryk 2002) to estimate relationships of within-individual changes in wages to motherhood, job contacts, and other explanatory variables, as well as separately considering between-individual differences in observed background characteristics. These models address issues of selection by using an analysis of within individual change to control for all time-stable individual differences (see Halaby 2003).

The two-level hierarchical model treats multiple observations over time as nested within persons. The first level of the hierarchical model includes variables referencing time and time-varying covariates. In the second level, the level-1 parameters become outcome variables, and so the level-2 parameters address the between-person variation in change.

The general form of the level-1 model can be written as:

$$Y_{it} = \beta_{0i} + \beta_{1i}T_{it} + \beta_{Xi}X_{it} + e_{it} \qquad (1)$$

where Y is the log wages for individual i at time t, and parameters β are specific to each individual i. β_{0i} refers to the individual's intercept, β_{1i} is her rate of change per year, T represents year, and X represents time-varying explanatory variables that may affect log wages for individual i at time t.

The initial level-2 equations can be written as:

$$\beta_{0i} = \gamma_{00} + \mu_{0i} \qquad (2)$$

$$\beta_{1i} = \gamma_{10} + \mu_{1i} \qquad (3)$$

$\beta_{xi} = \gamma_x$ (4)

where β_{0i} indicates the log wages for individual i when year = 0, β_1 is the expected change in log wages during the period, β_{xi} represents the effects of time-varying variables that may affect changes in y, and μ_{0i} and μ_{1i} indicate the individual variation around the intercept and linear components. The coefficients for the effects of the time-varying measures in equation 4 (β_x) are fixed rather than random at the second level.

     The effects of the time-varying covariates, however, may be biased and inconsistent if the level-1 predictors (X_{it}) are associated with person-level factors (μ_{0i}) that influence the outcome variable (Raudenbush and Bryk 2002:183; Halaby 2003:518-523). There are two means for eliminating this potential bias in the estimation of the level-1 explanatory variables. First, the values of X in these models can be transformed into deviations from each individual mean ($\overline{X_i}$) over the entire period. The other alternative is to include the individual means from each time-varying covariate $\overline{X_i}$ as predictors in the level-2 intercept equation. The level-2 intercept equation would then be written as:

$\beta_{0i} = \gamma_{00} + \gamma_{0x}\overline{X_i} + \mu_{0i}$ (7)

where γ_{0x} reflect the effects of between-person differences in time-varying covariates. As stated by Halaby (2003), "introducing $\overline{X_i}$ to the intercept equation will account for the correlation of X_{it} with μ_{0i}, the original source of unobserved heterogeneity bias" (519). This analysis strategy can thus account for both observed and unobserved differences between mothers and non-mothers, as well as potential mediators, when assessing the within-individual changes in motherhood and earnings.

DATA

Data for this analysis come from the Youth Development Study (YDS), an ongoing longitudinal survey of teenagers and their parents residing in a greater metropolitan area of approximately 2.5 million residents. Beginning in the Fall of 1987, a sample of 1,010 ninth graders was randomly drawn from students registered in the St. Paul, Minnesota public school district.[1] Questionnaires were administered annually in the classroom until June of 1991. Large batteries of questions focused on paid work, school performance and educational aspirations, and adjustment. The respondents' parents were also surveyed in the first year of the study to obtain accurate information about socioeconomic status and other family background characteristics (95% of all mothers and 90% of all fathers who resided with YDS participants completed surveys).

In the thirteen-year period following high school (1991-2004), respondents were mailed annual surveys detailing their past work experiences and their monthly investments in work and school, family formation behaviors, and residential arrangements. Approximately 81 percent of female respondents were retained through the 2004 survey, when the respondents were between 30 and 31 years of age. Socioeconomic background, educational promise in the 9th grade, family composition, parental expectations, number of siblings, and 10th grade economic self efficacy did not significantly predict survey completion during the last survey, although white females were more likely to be retained than non-white females (results not shown but available upon request; see also Mortimer 2003).

MEASURES

The measures for this analysis include hourly wages, family structure,

occupational placement, educational achievement, job characteristics, and local labor market conditions (each recorded yearly from 1991 to 2004 except during 1996 and 2001); prior work experience in both full-time and part-time jobs (recorded monthly via life history calendars); and whether the respondent desires a job that is easy (recorded in 1995, 2000, and 2002). Descriptive statistics for selected variables, based on the pooled data set (1991-2004), are shown in Table 1.

[Table 1 about here]

Wage Attainments

During each survey year respondents reported their hourly wage in their current job. The hourly wage rate was adjusted to the value of a dollar in the year 1991 and transformed by the natural logarithm. To minimize the influence of outliers I deleted a small number of cases (less than 1 percent) each year where respondents reported more than five times the median wage. In addition, if a respondent was employed in both a full-time and part-time job, only the wages of the full-time job were considered. If a respondent was not working during a particular year, they were coded as missing during that year only. Thus women who are not continuously employed are still included in the analysis sample.

Family Structure

Each year respondents were asked whether they currently have children and the dates of birth for each child. Based on this information I created time-varying measures of motherhood (coded 1=mother; 0=non-mother) and number of children. The date(s) of childbirth were then verified with prior surveys to ensure accuracy. Because less than one percent of mothers had four or more children, number of children ranges from "0" to "3

or more children." The measure of marital status is drawn from the life history calendar. Married respondents are those women who resided with their spouse or partner at some point during the prior year.

Occupational Placement

Each year respondents were asked to list all of the ways in which they located their current job. Responses included: (1) parents or other relatives; (2) a friend or neighbor; (3) someone from school; (4) my employer told me about it; (5) I placed or answered an ad or asked if there were any job openings at the place of work; (6) employment agency; or (7) applied or took a civil service test. As shown in Table 1, respondents frequently obtained their jobs directly by answering an ad or by asking whether there were any job openings at the place of work. Informal job contacts (e.g., parents, relatives, friends, neighbors) were more often used than were institutional ties (schools, employers, employment agencies, or civil service exams). Only 2 percent of jobs were found through civil service exams.

Work Experience

Work experience is based on a monthly record of both part-time and full-time employment from the spring of 1991 (the scheduled date of high school graduation) until the fall of 2004. Part-time jobs averaged less than 35 hours per week, while full-time jobs averaged 35 or more hours of work per week. Both full-time and part-time work experience are accumulated monthly during periods of no school attendance.

Educational Achievement

Educational achievement comprises three measures: (1) high school completion and high school dropout; (2) Associates' degree, vocational or technical certificate, or

some college; and (3) BA/BS degree, MA, Ph.D., or professional degree. I also include a measure of school attendance during the prior year (coded 1=student; 0=not attended school).

Current Job Characteristics

The measures of job characteristics include hours of work, industry, whether the job is perceived as a "career job," and work effort. The average hours of work are coded 1 (full-time work status) and 0 (part-time work). Industry is coded as six dummy variables: (1) construction and manufacturing (reference category); (2) agriculture and mining; (3) transportation and utilities; (4) sales; (5) professional, financial, and public administration services; and (6) other services.

I also include a variable reflecting whether the respondent believes their current job will continue as a career. In each survey year after high school respondents were asked, "how is your present job related to your long-term career goals?" The responses for this question were: "It is not linked to my long-term career objectives;" "it provides skills or knowledge that will prepare me for my future work;" "it will probably continue as a long-term career;" and "I don't know." The response "continue as a long-term career" is coded 1, while all other responses are coded 0.

Local Labor Market Conditions

Since the local labor market can influence both the likelihood of employment and earnings, I measure unemployment rates (derived from zip codes recorded yearly) during each year based on local area unemployment statistics from the U.S. Department of Labor.

The Importance of an Easy Job

During selected years (1995, 2000, 2002) respondents were asked to rate the importance of certain work conditions when they are looking for a job, such as "good pay," "good chance of getting ahead," and "a job that uses my skills and abilities." Of particular interest in this analysis is whether motherhood affects the importance respondents place on finding "a job that is easy." Responses to this question ranged on a four-point scale from 1=not at all important to 4=extremely important. The desire for an easy job in 1995 is moderately correlated with the same measure in 2002 ($r = .39$).

RESULTS

The presentation of the empirical findings is in three parts. First, to assess whether motherhood affects the channels by which women obtain jobs, I estimate within-individual changes in job placement to motherhood. Second, to assess why motherhood affects earnings I estimate within-individual changes in hourly wages to motherhood, job placement, and other explanatory variables. Finally, I consider to what extent motherhood affects the desire for a job that is easy, and whether this variable in turn mediates the pay gap between mothers and non-mothers during the transition to adulthood.

MOTHERHOOD AND OCCUPATIONAL PLACEMENT

Using the Hierarchical Linear Method presented above, Table 2 presents a series of unstandardized coefficients for the within individual regressions of occupational placement on motherhood using the pooled data set (1991-2004). Because the occupational placement variables are dichotomous, applying linear statistical models to such measures violates statistical assumptions and is likely to distort results (Osgood et

al. 2002). I therefore use a variation of the hierarchical linear model that is suited to binary outcomes (Raudenbush and Bryk 2002).

Each model in Table 2 includes motherhood as a time-varying explanatory variable (i.e., level-1 predictors). For each model I also include the mean value of motherhood ($\overline{X_i}$) as a predictor of the intercept component to limit results to within individual change and thereby minimize the possibility that these effects result from unmeasured individual characteristics. In addition, the coefficients for the level-2 effects of motherhood can be interpreted as the expected difference in the likelihood of an occupational search strategy for respondents who are one unit apart on the mean of the parenthood variable (See Halaby 2003:522). For example, mothers who have children at younger ages have higher values of $\overline{X_i}$; more recent mothers will have lower values of this measure. Though not shown in Table 2, all of the models include measures of time to address changes in job placement with age.

As shown in Table 2, motherhood decreases the likelihood that women will use employment agencies to find jobs and increases the chances they will find new jobs from relatives. Though motherhood does not affect the probability that women will find jobs from their employers or through school contacts, the level-2 effects of motherhood are negative and statistically significant in both equations. These effects suggest that women who have children earlier in the study are less likely to find jobs through their employers or through school contacts than are women who have children later. By contrast, the level-2 effect of motherhood on finding a job through an employment agency is positive and statistically significant. This implies that mothers who had children at younger ages

are more likely to use an employment agency than those women who had children when they were older.

In analyses not shown I estimated Models 1 through 7 using number of children as a predictor (and not motherhood). The results were substantially the same as those reported in Table 2. I also considered several time-varying variables that may affect occupational placement, such as work experience, the local unemployment rate, educational achievement, and marriage. Though not shown, the time-varying effects of motherhood on the use of an employment agency remained positive and statistically significant (Model 3), though the effect of motherhood on using a relative to find a job became non-significant (Model 5). The level-2 effects of motherhood on school and employer placement were substantially unchanged (Models 1 and 2, respectively).

In general, when women become mothers the channels by which they find jobs does not change. Though mothers are more likely to use relatives to find jobs (marginally), this effect is explained by differences in work experience, marital status, and educational achievement. In addition, older mothers are less likely to use employment agencies to find jobs. However, there is some evidence that mothers who have children earlier in the life course are less likely to use school placement or find jobs through their employers than those women who delay childbearing or remain childless. Next I address whether the effect of motherhood on wages is conditioned by the strategy of job search.

MOTHERHOOD, JOB SEARCH, AND WAGE ATTAINMENTS

Table 3 presents unstandardized coefficients for a series of models that estimate within-individual changes in hourly wages by number of children, job search, and other

explanatory variables. Model 1 includes a time-varying measure of number of children. The remaining models include job contacts (Model 2), interactions of occupational placement with number of children (Model 3), and time-varying measures of work experience, job characteristics, educational achievement, marital status, and local labor market conditions (Model 4). All of the models in Table 3 include the mean values of each explanatory variable ($\overline{X_i}$) as predictors of the intercept component. These level-2 effects are shown in Appendix 1. The appendix also displays the variance components.

As shown in Table 3, women pay a 6 percent penalty to their hourly wages per child (Model 1). The rate of change in hourly wages increases during young adulthood (year coefficient = .111) with some evidence of a slowdown in adulthood (year * year coefficient = -.002). Though not shown in Table 3, I also included dummy variables to assess whether the effect of number of children was linear. I found that mothers' wages declined by 3 percent for one child, 10 percent for two children, and 22 percent for three or more children, which is similar to the wage penalty of mothers in the NLSY study (see Budig and England 2001:217). The assumption of a linear and monotonic effect of number of children on hourly wages appears to be warranted.

Next I include measures of both personal and institutional contacts as potential explanatory variables of the motherhood penalty (direct job finding, or using no contacts, is the omitted category). Though the inclusion of job contacts does not explain the wage penalty for motherhood, occupational placement does affect hourly wages. When women find jobs through their friends or through someone from school, their wages decrease by approximately 5 and 8 percent, respectively. By contrast, women increase their hourly wages by 6 percent when employers tell them about new jobs. Although less common,

finding a job through a civil service exam had the largest effect on wages (an increase of 17 percent).

The level-2 effects of occupational placement (see Appendix 1) indicate the expected difference in the growth of wages for women who are one unit apart on the mean of the job placement variables. As shown in Appendix 1, the level-2 effects of school placement and civil service examinations are positive and statistically significant in Model 2. This suggests that women who use school placement or civil service examinations regularly during the transition to adulthood have greater growth in their earnings than those women who do not use these institutional ties or who use them sparingly.

To assess whether the effect of number of children on wages is conditioned by occupational placement, Model 3 includes the interaction effects of job contacts with childbearing. Only two of the six interactions proved statistically significant ($p < .05$), which are shown in Model 3. When childless women use friends to find jobs, their wages drop by 7 percent. However, when mothers use friends to find jobs their wages only drop by 2 percent. The effect of number of children on hourly wages is also conditional on employer contacts. When childless women report that their employers told them about a new job, their wages increase by 9 percent ($b = .085$). By contrast, when employers tell mothers about new jobs their wages drop by 11 percent ($b = -.064 + -.046$). School placement continues to have a short-term negative effect on wages (but longer-term benefits), whereas civil service exams and employment agencies increase hourly wages.

The final model includes measures of human capital development, job characteristics, local labor market conditions, and family structure (Model 4). Women

earn significantly higher wages when they receive their BA/BS degree or higher, when they are employed in career jobs, when they are employed full-time, when they are employed in construction or manufacturing jobs, when they accumulate full-time work experience, and when the local unemployment rate is low. In particular, the inclusion of these variables reduces the interaction effect of friends * motherhood by 22 percent and slightly attenuates the interaction of employer * motherhood on wages. The wages of women in this study did not increase when they married or when they completed an Associates' or vocational degree.[2] The accumulation of part-time work experience also did not benefit the wages of working women. Though not shown, the inclusion of measures of work experience during periods of school attendance (both full-time and part-time) also did not reduce the wage penalty in Model 4.

MOTHERHOOD AND THE IMPORTANCE OF AN EASY JOB

The final section of this study addresses whether motherhood affects the importance of finding a job that is easy and whether this in turn mediates the effects of motherhood on wages. Table 4 presents unstandardized coefficients from the within-individual regression of the importance of an easy job (Model 1) on number of children using a reduced sample (based on surveys conducted during 1995, 2000, and 2002). Table 4 also presents unstandardized coefficients from the within-individual regression of hourly wages on the importance of an easy job and number of children (Model 2).

As shown in Table 4, when women have (more) children they place a stronger emphasis on finding a job that is easy (marginally). However, changes in the importance of an easy job with motherhood do not explain the wage penalty for motherhood (Model 2), as the effect of number of children on hourly wages remains statistically significant.

Motherhood reduces wages by 6 percent per child even after controlling for the desire for an easy job.

DISCUSSION

Recent commentary on the wage penalty for motherhood speculates that work effort and employer discrimination may explain why mothers earn less than non-mothers (England 2005). Although women place somewhat more emphasis on finding a job that is easy when they become mothers, this does not explain the wage penalty for motherhood.

I speculated that motherhood may affect the ways in which women find jobs, which in turn might explain why mothers earn less than non-mothers. With some exceptions, motherhood does not generally change the ways in which women find jobs. Mothers are more likely to find jobs through relatives, which reflect changes in network structure associated with childrearing (see Munch et al. 1997). When women become mothers they are also less likely to find jobs through employment agencies. Mothers may be less likely to use employment agencies than other women because employment agencies typically find jobs that are temporary (Kalleberg 2000) and often do not include insurance or other fringe benefits that mothers in particular may find appealing (Kalleberg et al. 2000). The results also suggest that mothers who have children at younger ages have lower probabilities of finding new jobs from their employers or through school contacts during the transition to adulthood than do mothers who delay childbearing or remain childless. This is noteworthy given the benefits of school placement for longer-term earnings (Rosenbaum 2001), especially among disadvantaged youth.

Nonetheless, job contacts explain little of the wage penalty for motherhood. However, I find that an important variable which conditions the effect of number of children on wages is employer contacts. Though childless women experience an increase in their wages when employers tell them about new job opportunities, women with (more) children experience a decline in their wages. The significant interaction of motherhood and employer contacts on wages can be interpreted as: (1) the discrimination against mothers by employers, or (2) mothers pursuing new job opportunities through their employers which are lower in pay but are more "mother-friendly."

When college students were asked to evaluate fictitious job applications for a marketing position, childless women were more likely to be offered jobs, as well as higher wages, than were mothers (Correll and Benard 2005). Though the college students were not actual employers evaluating real job applicants, the study offers some evidence that employers too may be unwilling to hire mothers because they prefer childless women. Employers may also discriminate against mothers and offer them lower wages because they *feel* mothers are less productive than non-mothers.

This study finds that motherhood does not affect whether women hear about new jobs from their employers, but motherhood does affect whether women both hear about and obtain new jobs that involve good wages. The interaction between number of children and employer contacts does not address whether mothers are less likely to be hired than non-mothers, but it does suggest that employers create a pay gap between childless women and those with (more) children even after controlling for human capital development, job characteristics, and career acquisition. In addition, younger mothers are less likely to find out about new jobs from their employers as they grow older than are

mothers who delay childbearing, even after controlling for human capital development and time-stable traits that may affect employment and fertility behaviors. It is certainly plausible that young mothers are likely candidates for employer discrimination given the public discourse and social stigma surrounding teenage childbearing (Furstenberg 2003).

Employers may offer mothers new jobs that have lower wages because they are "mother-friendly." For instance, if mothers wanted new jobs from their employers that were part-time and were not necessarily "career" jobs, then the inclusion of these job characteristic variables should explain a least some of the significant interaction effect of motherhood * employer contact. However, job characteristics do not affect the size or direction of the interaction coefficient. Furthermore, the desirability for an easy job explains very little of the pay gap between mothers and non-mothers. Budig and England (2001) also show that motherhood does not affect whether women work in occupations that require little effort. This study suggests that when women become mothers the effort in their work remains largely unchanged.

The study of job contacts to identify a "mommy track" is a novel approach to understanding the discrimination against women in the workforce. As indicated earlier, it is difficult to say with certainty that employers offer mothers lower wages than non-mothers because of discrimination. Women may want more "friendly" jobs when they have children and employers are simply leading them to jobs that entail less effort, fewer hours, and also lower pay than before. But, in summary, my interpretation favors discrimination because: (1) I measured differences between mothers and non-mothers in work experience and education that employers could use to evaluate applicants; (2) I controlled for all time-stable differences between mothers and non-mothers that may

affect the hiring, promotion, and wage attainments by using a fixed-effects methodology;

(3) women do not look for easier jobs when they have children, nor does the desire for an easier job explain the pay gap; (4) characteristics of the job, including whether it is perceived to be a "career," does not explain the significant interaction of employer contacts * motherhood; (5) mothers with three or more children earn less than mothers with one or two children when employers tell them about jobs, and (6) mothers who have children at younger ages have a lower probability of finding jobs through employers during the transition to adulthood, even after controlling for the human capital acquisition of teenage mothers. In fact, this study may be underestimating the effect of employer discrimination on the wage attainments of mothers because wages are only observed among working women. Employers may not only pay mother less than non-mothers, they also may be less willing to hire them for new positions.

Even though employers might not be serving the best interests of mothers, this study suggests that the friends and neighbors of women with children are helping them to find better jobs. In general, the wages of women are lower when they use their friends to find jobs. During the early occupational career, friends are less helpful in finding a quality job mostly because they also have little seniority in their jobs (Borman 1991). Nevertheless, women with (more) children pay less of a family penalty when they find jobs through their friends.

The friends of mothers may serve as a "weak tie" when social networks are typically constrained during childrearing (Munch et al. 1997). In this study when women become mothers they are more likely (marginally) to find new jobs from relatives, which reflects in part the kin-based social network of mothers. Friends may provide an

important source of new information about jobs outside of the family circle. However, the positive effect of motherhood * friend job contacts on wages is reduced considerably when I included controls for human capital development and work characteristics. Mouw (2003) suggests that informal job contacts in general have little benefits to wages because causal acquaintances are likely to be similar to the applicant in socioeconomic background, educational achievement, and work experience. It is certainly plausible that mothers are spending time with other mothers and so their information about new jobs is restricted.

In sum, this study finds that motherhood has little effect on the channels by which women find jobs. Both informal and institutional contacts also explain little of the family penalty for motherhood. Job contacts, however, do condition the effect of motherhood in meaningful ways. Women pay less of a wage penalty for motherhood when their friends tell them about new jobs, even though this form of social capital does not generally benefit the earnings of working women. However, women on the "mommy track" find jobs through employers that are significantly lower in wages than childless women.

ENDNOTES

[1] St. Paul, Minnesota is similar to countrywide averages in per capita income and family income, as well as rates of unemployment and labor force participation (Mortimer 2003). At the initiation of the study, per capita income was slightly lower in St. Paul than nationwide, the percentage of persons over the age of 25 in the labor force was slightly higher, and the unemployment rate was the same (4.1 percent). The percentage of non-whites residing in St. Paul was also similar to national averages, although St. Paul residents did have higher overall levels of educational attainment. Prior investigations of the YDS data suggest that the selected panel represents the St. Paul community, as well as the character of 9th grade students in St. Paul at the time of the initial panel selection (see Finch et al. 1991).

[2] Budig and England (2001) found that the effect of number of children on wages is conditional on marital status. I found the interaction of number of children with marriage was statistically non-significant in model 4 (not shown). However, without any controls (model 1) the marriage * number of children interaction was statistically significant. Childless women experienced a 4.5 percent increase in their wages when they were not married, mothers experienced a 7 percent decrease per child when they married (not shown). The lack of a statistically significant interaction between marriage and number of children in the final model could be because women in more recent cohorts are more likely to have children outside of marriage and are especially more likely to cohabitate (Bumpus and Lu 2000; Wu, Bumpass, and Musick 2001). Prior analyses of the wage penalty for motherhood are based on older cohorts.

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Appendix 1. Level-2 Effects on Intercept and Variance Components From Models 1-4 (Table 3)

Level-2 Predictors (Intercept)	Model 1		Model 2		Model 3		Model 4	
Relatives			.003	(.05)	.007	(.05)	-.050	(.04)
Friends			.001	(.04)	.065	(.05)	.063	(.05)
School			.194 **	(.07)	.202 **	(.07)	.054	(.06)
Employer			-.082	(.07)	-.104	(.08)	-.082	(.06)
Agency			-.016	(.06)	-.012	(.06)	.001	(.06)
Civil Exam			.169 *	(.07)	.182 *	(.07)	.156 **	(.06)
Number of Children	-.008	(.02)	-.006	(.02)	.013	(.02)	.007	(.02)
Children * Friend					-.098 *	(.05)	-.094 *	(.04)
Children * Employer					.042	(.07)	.115 *	(.05)
Full-time experience							-.003 #	(.00)
Full-time experience squared							.000	(.00)
Part-time experience							.000	(.00)
School Attendance							.083	(.05)
Vocational-Associates Degree							.003	(.04)
4-year degree or higher							-.072	(.04)
Married							.074 *	(.03)
Agriculture and Mining							-.287 #	(.17)
Transportation and Utilities							-.016	(.09)
Sales							-.128 #	(.07)
Other Services							-.078	(.08)
Professional, Finance, Public Admin							-.094	(.06)
Unemployment rate							-.005	(.01)
Career job							.169 ***	(.04)
Full-time Job							.128 *	(.05)
Variance Components								
Intercept	.023		.021		.022		.010	
Linear	.008		.008		.008		.008	
Quadratic	.000		.000		.000		.000	

Note. Numbers in parentheses are standard errors; # p < .10; * p < .05; ** p < .01; *** p < .001

Table 1. Descriptive Statistics of Pooled Sample (1991-2004)

	mean	sd
Wages (log)	2.06	.44
Motherhood		
Number of children	.64	.95
No children	.62	.48
One child	.18	.39
Two children	.12	.33
Three or more children	.07	.26
Job Contacts		
Relative	.18	.38
Friend	.26	.44
School	.09	.28
Employer	.08	.27
Direct	.42	.49
Agency	.09	.28
Civil Service Exam	.02	.14
Family, School, Work Roles		
Married	.29	.45
Student	.40	.49
Full-time Work Experience (months)	39.74	34.11
Part-time Work Experience (months)	11.75	14.31
High School Graduate/Dropout	.59	.49
Vocational/Associates/Some College	.19	.39
BA/BS Degree or Higher	.22	.41
Current Job Characteristics		
Career job	.28	.45
Full-time job	.70	.46
Industry		
Construction and Manufacturing	.08	.27
Agriculture and Mining	.01	.08
Transportation and Utilities	.04	.21
Sales	.21	.41
Other Services	.14	.34
Professional, Finance, Public Administration	.52	.50
Unemployment rate	3.49	1.34

N=2,957 person years; 471 women

Table 2. Unstandardized Coefficients from Within Individual Regressions of Occupational Placement on Motherhood

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Level-1 Predictors	School	Employer Told Me	Employment Agency	Civil Exam	Relative	Friend	Direct
Motherhood (time-varying)	.155	.268	-.645 *	.317	.252 #	-.141	-.130
	(.22)	(.25)	(.26)	(.27)	(.15)	(.15)	(.16)
Level-2 Predictors							
Motherhood (average)	-.809 *	-.699 *	.842 *	-.443	.278	-.276	.234
	(.31)	(.32)	(.34)	(.36)	(.21)	(.21)	(.21)

Note. Effects of time not shown; Numbers in parentheses are standard errors; # $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3. Unstandardized Coefficients from Within Individual Regressions of Hourly Wages on Number of Children and Mediating Variables

Level-1 Predictors (time-varying)	Model 1			Model 2			Model 3			Model 4		
Number of Children	-.059	***	(.01)	-.060	***	(.01)	-.064	***	(.01)	-.041	**	(.01)
Job Contacts												
Relative				.003		(.02)	.001		(.02)	.009		(.02)
Friend				-.046	*	(.02)	-.070	**	(.02)	-.056	*	(.02)
School				-.078	***	(.02)	-.077	***	(.02)	-.055	**	(.02)
Employer				.061	**	(.02)	.085	***	(.03)	.086	***	(.03)
Agency				.034		(.02)	.037	#	(.02)	.016		(.02)
Civil Service Exam				.174	***	(.03)	.170	***	(.03)	.138	***	(.03)
Number of Children * Friend							.044	*	(.02)	.034	#	(.02)
Number of Children * Employer							-.046	**	(.02)	-.050	**	(.02)
Married										.002		(.02)
Student										-.012		(.02)
Full-time Work Experience										.007	***	(.00)
Full-time Work Experience Squared										.000	***	(.00)
Part-time Work Experience										.002		(.00)
Highest Degree (vs. High School/Dropout)												
Vocational/Associates/Some College										.027		(.03)
BA/BS Degree or Higher										.170	***	(.03)
Career job										.048	***	(.01)
Full-time Job										.046	*	(.02)
Industry (vs. Construction)												
Agriculture and Mining										-.230	*	(.11)
Transportation and Utilities										-.012		(.04)
Sales										-.127	***	(.03)
Other Services										-.062	*	(.03)
Professional, Finance, Public Admin										-.048	#	(.03)
Unemployment rate										-.014	*	(.01)
Intercept	1.532	***	(.02)	1.531	***	(.02)	1.517	***	(.03)	1.736	***	(.09)
Year	.111	***	(.01)	.109	***	(.01)	.109	***	(.01)	.028	**	(.01)
Year*Year	-.002	*	(.00)	-.001	*	(.00)	-.001	*	(.00)	.001		(.00)

Note. Numbers in parentheses are standard errors; # $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 4. Unstandardized Coefficients from Within-Individual Regressions of: (1) The Importance of an Easy Job; and (2) Hourly Wages on Number of Children

	Importance of Easy Job	Hourly Wages (log)
Level-1 Predictors		
Number of Children (time-varying)	.055 #	-.066 **
	(.03)	(.02)
Importance of Easy Job (time-varying)		-.032
		(.03)
Level-2 Predictors		
Number of Children (average)	.043	-.006
	(.04)	(.03)
Importance of Easy Job (average)		-.028
		(.04)

Note. Numbers in parentheses are standard errors; # p < .10; * p < .05; ** p < .01; *** p < .001; Effects of time not shown