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ASIAN AMERICAN-WHITE DIFFERENCES IN THE EFFECT OF MOTHERHOOD ON CAREER OUTCOMES

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Abstract

U.S.-born Asian Americans are unique among American minority groups in that they lack earnings disadvantages relative to Whites with similar education levels. Controlling for education and age, there is little difference in the earnings of U.S.-born Asian and White men, but Asian women have higher earnings than comparable White women. Using data from SESTAT, this study tests the hypothesis that Asian American women's high earnings may result from adjusting their labor supply less than White women in response to parenthood, leading to greater work experience over time. Findings show that Asian American women are less likely than White women reduce labor supply in response to parenthood, and that their resulting greater work experience explains their high rate of earnings growth.

Keywords

Asian Americans; women in science; work and family

Asian Americans born or educated in the United States are unique among American minority groups in that they do not suffer a significant earnings disadvantage relative to Whites with similar levels of human capital (Iceland 1999; Sakamoto, Goyette and Kim 2009; Xie and Goyette 2004; Zeng and Xie 2004). Among men, after taking into account education and work experience, recent studies have typically found no significant earnings difference between Asian Americans and Whites (Sakamoto et al. 2009). Among women, by contrast, data from the 2000 U.S. Census indicates that U.S.-born Asian Americans actually have higher earnings than comparable White women, even after controlling for human capital (Greenman and Xie 2008; Xie and Goyette 2004). The ability of previous studies to explain the earnings patterns of Asian Americans has been severely hampered by the paucity of longitudinal data sources with sufficient sample sizes of Asian Americans. This study takes advantage of a longitudinal sample of women in science and engineering in order to explore possible explanations for the high relative earnings of Asian American women. In particular, it tests the role of differences between Asian American and White women in the effect of motherhood on employment.

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In addition to providing new information on the labor market outcomes of Asian American women, who have rarely been considered in the literature on racial earnings differences, this study will contribute to our understanding of racial variation in the gender earnings gap. The fact that Asian American women, but not men, have higher earnings than comparable Whites of the same gender is evidence of an interaction between race and gender. In this case, the interaction takes the form of a smaller gender earnings gap among Asian Americans than among Whites. This pattern of racial variation in the gender earnings gap is pervasive in the United States: Among U.S.-born workers, non-Hispanic Whites have the largest male-female earnings gap of any of the 19 specific racial/ethnic groups studied by Greenman and Xie (2008). This pattern of lower gender earnings gaps among minorities holds true among both minority groups that have very low earnings relative to Whites (such as African Americans) and among those with high relative earnings (such as most Asian American groups). Despite careful documentation of this empirical pattern, the causes of the race/gender interaction have not been fully explored.

The interaction between gender and race among Asian Americans and Whites is a special case due to the comparability of the earnings of U.S.-born or educated Asian American and White men. Although there is still evidence that Asian Americans face other kinds of socioeconomic barriers (e.g., a lower likelihood of having managerial authority (Sakamoto et al. 2009)), most recent studies have shown that Asian American men have reached parity with White men in terms of earnings (see Sakamoto et al. 2009 for a review of this literature). For example, Xie and Goyette's (2004, p.16) estimates of earnings differences between U.S.-born Asian American and White men from 1960 and 2000 showed that while in the earlier decades Asian American men had lower earnings than White men with comparable education, this was no longer the case by 2000. Zeng and Xie (2004) demonstrate that even among foreign-born Asian American men, only those who completed their education prior to immigrating to the United States have lower earnings than comparable Whites. The earnings parity between Asian American and White men allows the race/gender interaction to be explored using a simpler approach than would be possible with other groups: under the assumption that there are no unobservable characteristics suppressing the earnings of Asian American men, explaining why Asian Americans' gender earnings gap is smaller than that of Whites boils down to explaining why Asian American women earn more than White women. Therefore, while this study focuses empirically on earnings differences between Asian American and White women, conceptually and theoretically it also addresses the larger issue of the gender earnings gap and why it varies by race.

Specifically, I address the hypothesis that Asian American women's earnings advantage may result from Asian American women not adjusting their labor force behavior as much as White women in response to parenthood. My reasoning is as follows: Asian American women's labor force participation rates have historically exceeded those of White women (Espiritu 1999, 2008; Xie and Goyette 2004). While White women's labor force participation rates have gradually caught up with those of Asian American women, employment among mothers with young children is still significantly higher among Asian Americans than among Whites. There is an even greater contrast in the rates of full-time, full-year work (Greenman and Xie 2008). Furthermore, several studies have shown that the

negative correlation between female employment and the presence of young children in the home is weaker for Asian American than for White women (Agbayani-Siewert and Jones 1997; Foroutan 2008). These differences suggest that Asian American women may be less likely to curtail labor force participation or hours of work – collectively, "labor supply" – in response to parenthood. Such labor supply differences, due to the close link between work experience and earnings, should theoretically lead to higher earnings for Asian American women. I explore these issues using a sample of early-career Asian American and White scientists and engineers as a case study. The longitudinal nature of the data allows me to observe differences in employment patterns, earnings, and family formation as they develop over time.

Family and Gender Earnings Gaps Among Professionals

Why might there be differences between Asian American and White women in the relationship between family and work? To answer this question, it is necessary to first examine the relationship between family and work in general. One of the dominant theories of the gender earnings gap in the social sciences is that provided by neoclassical economics (Becker 1981; Mincer and Polacheck 1979), which centers on the interplay between women's family responsibilities and their labor market outcomes. While there is a great deal of diversity in modern family structures, the neoclassical explanation primarily focuses on married-couple families with children (or on those who anticipate being part of such a family one day). This framework posits that decisions about the labor allocation of both spouses are made at the family level to maximize the family's utility. It assumes that families need both domestic production and labor market production, and that well-being is maximized if each spouse specializes in the area in which he or she has a comparative advantage. Because men are more likely to be the higher-earning spouse —and perhaps because some couples consider women to be more skilled at child-rearing – most couples choose for the wife to specialize in domestic production and the husband to specialize in labor market production.

There are several consequences for women's labor market outcomes: First, they may choose not to invest as much in human capital acquisition because they do not anticipate spending as much time in the labor force in which to reap the rewards. Second, their careers are likely to be interrupted due either to taking time out of the labor force or cutting back on hours worked in order to care for children. In addition to the income forgone as an immediate result of reductions in labor supply, such reductions slow down the rate of human capital acquisition from work experience, lowering earnings in the long run. Third, women may choose occupations that allow them to more easily juggle both work and family responsibilities. Such occupations theoretically have lower earnings penalties for taking time out, and possibly other "mother-friendly" characteristics such as more flexible work arrangements, few demands for evening or weekend work, and the like (Becker 1981; Budig and England 2001). By the theory of compensating differentials, these characteristics come at the cost of lower earnings. The influence of family responsibilities on women's occupational choices is therefore thought to result in both occupational sex segregation and lower earnings in "female" occupations. Thus, neoclassical economics provides a theoretical

framework that explicitly links gender inequality at work with gender role differences at home. This explanation will henceforth be referred to as “role specialization theory.”

Empirical tests of role specialization theory have yielded mixed results. In particular, its explanation of occupational sex segregation has not held up well to empirical scrutiny. England, Farkas, Kilbourne, and Dou (1988) and England (1994) find that women in typically “female” occupations suffer just as much earnings depreciation during employment breaks as women in “male” occupations. Budig and England (2001) demonstrate that contrary to the theory of compensating differentials, there is no evidence that mothers trade off lower pay for job characteristics that facilitate combining parenting and employment. On the other hand, there is little doubt that taking time out of the labor force to care for children does lower women’s earnings (England 2005). There is also evidence that role specialization theory provides part of the explanation for the gender earnings gap among professionals. Noonan and Corcoran (2004, p.146) find that about half of the earnings disparity between male and female lawyers 15 years post-degree can be attributed to women’s lower levels of labor supply. Xie and Shauman (2003) show that the gender gap in earnings for scientists and engineers is much larger for workers with children than for childless workers, suggesting that family responsibilities have differential effects on men’s and women’s labor market outcomes. Many other studies have also documented the negative effect of child-related employment breaks on women’s earnings in the general population of workers (Corcoran, Duncan, and Ponza 1983; England 2005; Jacobsen and Levin 1995).

While role specialization theory has been one of the most commonly invoked explanations for the gender earnings gap in the social sciences, it has important limitations (for examples, see England (2005), Greenman and Xie (2008)). Here I will limit my discussion to those most relevant to Asian Americans. The theory presents itself as being based solely on rational economic decision-making, and thus equally applicable to all families facing the same economic circumstances. However, the extent to which families conform to its predictions is also likely to be influenced by culturally-variable attitudes and values. Because they are culturally variable, such attitudes and values are likely to also vary by racial and ethnic group, potentially making role specialization theory more applicable to some groups than others. Unique historical circumstances, such as the history of slavery for African Americans and the particular immigration history of Asian Americans, may also influence the extent to which role specialization theory is applicable to different racial and ethnic groups.

One of the theory’s limitations is that it fails to consider that for both men and women, there are often non-economic considerations that may outweigh calculations of maximum efficiency in the family allocation of labor. Blair-Loy (2003) identifies two conflicting schemas, or shared cultural models, that shape workers’ decisions surrounding the family division of labor: the “work devotion” schema and the “family devotion” schema. She finds that workers who adhere to the work devotion schema reap significant psychological rewards from employment in addition to the financial rewards emphasized by role specialization theory. Hakim’s (2002) “preference theory” also suggests that noneconomic considerations – specifically, women’s preferences for how much effort to allocate to labor market work versus family work – play an important role in labor market decisions. With

women's accepted roles now encompassing both labor market activity and family work, economic factors such as husbands' earnings are no longer the most critical determinant of women's employment (Hakim 2003).

Both preferences and adherence to cultural schemas are likely to vary across race/ethnic groups as well as across individuals. In the case of Asian American women, it is significant that the majority are immigrants, and among the highly-educated (such as the sample of scientists and engineers used in this study) often came to the United States specifically to seek educational or employment opportunities. It is very likely that such women have a strong work commitment, regardless of family-level utility maximization. Furthermore, a growing number of Asian immigrant women are the "primary immigrant" in a family, bringing their husbands as dependents (Espiritu 1999, 2008). In such cases couples are probably very unlikely to specialize along traditional gender lines after arrival.

Second, the theory ignores both the importance of cultural values regarding the importance of work and culturally-defined expectations regarding the responsibility of men and women for contributing financially to the family. Attitudinal surveys have suggested that there is racial variation in such values and expectations, with African Americans and Mexican Americans both expressing more support than Whites for the idea of couples' shared responsibility for providing income (Blee and Tickamyer 1995; Taylor, Tucker, and Mitchell-Kernan 1999). These attitudes coexist with more gender-traditional attitudes on other issues, such as women's responsibility in the home and their role in public life (McLoyd et al. 2000). It seems likely that attitudes regarding women and work have been shaped by the economic necessity of having most adults in the workforce among groups with lower earnings. Although Asian Americans' cultural values surrounding work and gender roles have not been directly measured with surveys, the recent immigrant history of many Asian American families suggests that a similar argument may apply to them. Given the high costs of migration and the difficulty of gaining a solid economic footing in a new country, Asian American families may also have a higher expectation that women work outside the home, even if other gender-role attitudes remain more traditional. The little empirical work on the determinants of labor force participation among Asian American women has supported the idea that married women's employment, at least among the immigrant generation, is often part of a "family investment strategy" (Duleep and Sanders 1993) that facilitates the immigrant family's initial economic adjustment following migration (Stier 1991). The economic necessity of women's labor force participation, in turn, reshapes gender dynamics within families and sparks attitudinal changes toward women's work (Espiritu 2008) that may carry over into subsequent generations.

Third, role specialization theory assumes, at least for families in which the wife's earnings are greater than the cost of child care, that there is still a perceived advantage of parental care that outweighs the additional income forgone in order to provide such care. This assumption is closely related to Blair-Loy's (2003) "family devotion" schema. Workers who adhere to this schema see children as vulnerable and in need of constant maternal attention, frequently leading them (if female) to cut back on paid employment to provide intensive mothering. The family devotion schema is one version, based on the experiences of the White upper-middle class studied by Blair-Loy, of what it means to be a "good mother."

However, as Blair-Loy acknowledges (2003, p. 193), different racial/ethnic groups vary in their cultural definitions of what it means to be a good mother and how motherhood and paid employment relate to each other. For some families, having a parent available after school may be a less important component of "good mothering" than providing the economic resources to give children the highest-quality educational experiences. The assumption that the value of parental care would outweigh the desire to give children better educational opportunities may be particularly unwarranted for Asian American groups, who have repeatedly been shown to place a very high value placed on children's educational achievement (Goyette & Xie 1999; Slaughter-Defoe, Nakagawa, Takanishi, and Johnson 1990; Zhou and Bankston 1998). Thus, participating in full-time paid work may not be perceived as incompatible with fulfilling the role of a "good mother" among Asian Americans to the same extent as among Whites.

Fourth, in many Asian societies cultural tradition dictates that older adults live with their married children. This cultural practice is also evident among Asian immigrants and natives in the United States (Wilmoth, De Jong, and Himes 1997). According to Xie and Goyette (2004), Asian American children are nearly two and a half times as likely as non-Hispanic White children (17% vs. 7%) to live in multigenerational households. (Asian American children who do not live in multigenerational households may also be more likely to live near their grandparents, although this has not been measured). Grandparents in multigenerational households are likely to help with childcare and other domestic responsibilities, potentially facilitating mothers' participation in demanding careers and lowering the need for gender role specialization between spouses who have young children. Previous studies have shown that having additional adult family members (frequently grandparents) in the household is related to increased labor force participation rates among Asian American women (Duleep and Sanders 1993; Stier 1991). There may also be strong cultural norms among some Asian groups for grandparents who live nearby, but not actually in the same household, to provide assistance with childcare: Chen, Short and Entwisle (2000) demonstrate that in China, mothers' childcare burden is lowered if grandparents live either in the household or in close proximity. Thus, there are several reasons to question whether role specialization theory describes the decisions of Asian American and White families equally well.

There has been little empirical research on racial variation in the applicability of role specialization theory, in part because most studies lack sufficient sample sizes to do separate analyses by race. Greenman and Xie (2008) do address this issue, although they are limited by their inability to measure work experience directly. They find that racial variation in the gender earnings gap is found primarily among married workers, with little variation among unmarried workers. Furthermore, they find that the labor force participation of women in many minority groups is not as influenced by their husbands' earnings as it is among Whites. Both findings suggest that there may be higher gender role differentiation among White couples than among most other groups.

In addition to role specialization theory, another line of research on the relationship between family factors and women's earnings investigates reasons behind the "motherhood penalty," or the lower earnings of mothers compared to similar women without children. This

literature finds that mothers have lower earnings than non-mothers even net of their lower labor supply (Budig and England 2001; Waldfogel 1997), suggesting that there are factors in play other than those emphasized by role specialization theory. Two commonly proposed explanations for the motherhood penalty are employer discrimination against mothers and Becker's (1985) work effort hypothesis, which posits that mothers' energy is depleted by child care, making them less productive employees. While there is little empirical evidence in support of the work effort hypothesis (Anderson, Binder, and Krause 2003; Bielby and Bielby 1988), employer discrimination against mothers has been documented with experimental research designs (Correll, Benard, and Paik 2007).

Due to historical differences in mothers' employment by race, it is possible that employers do not perceive motherhood and work to be equally incompatible for women of different races. Few studies have directly addressed racial differences in the motherhood penalty, but those that have tend to find smaller penalties for non-White mothers. Blair-Loy and DeHart (2003) find that there is no motherhood penalty for African American women lawyers. Waldfogel (1997) and Korenman and Neumark (1992) both find that African American mothers' earnings penalty is smaller than that of White mothers. Budig and England (2001) report similar findings, for Latinas as well as African American women, but only for mothers with three or more children. No literature to date has examined the motherhood penalty among Asian American women. If Asian American women are similar to other minority women, we might expect them to have a lower motherhood penalty as well; on the other hand, the fact that Latina and African American women already face significant earnings penalties on the basis of both race and gender may mean there is simply less "room" for further discrimination on the basis of motherhood. This would not apply to Asian American women, who do not suffer equivalent race-based earnings penalties. Furthermore, the demographic characteristics of Asian American mothers resemble those of non-Hispanic White mothers much more closely than those of other minority mothers. During the 1990s (when the data used in this study were collected), Asian American women were 26.8 years old on average at first birth, compared to 25 among non-Hispanic White women, 22.4 among Hispanic women, and 21.7 among non-Hispanic Black women (Mathews and Hamilton 2009). Asian American and non-Hispanic White women have very similar total fertility rates (1.9 and 1.8, respectively), which are lower than those of Hispanic or non-Hispanic Black women (at 3.0 and 2.2, respectively) (Ventura et al. 1999). Furthermore, similar proportions of Asian American and non-Hispanic White mothers have completed at least a high school degree (86-87%), compared with only 72.5% among non-Hispanic Black mothers and 49.7% among Hispanic mothers (Ventura et al. 1999). Thus, it is unclear whether the motherhood penalty should be expected to operate among Asian American women in a way more similar to White women or to other minority women, necessitating an empirical exploration of this question.

Thus, there are both theoretical and empirical reasons to suspect that the relationship between family factors and labor market outcomes varies by race. The few existing studies on earnings differences between Asian Americans and Whites have not been able to test the potential role of family factors adequately, primarily due to their reliance on cross-sectional data. This study uses longitudinal data on scientists and engineers to observe the effect of

changes in family responsibilities on Asian American and White women's labor supply and earnings. Specifically, I test two hypotheses:

1. Asian American women reduce their labor supply less in response to parenthood than White women, leading to a faster accumulation of work experience.
2. Differences in accumulated work experience explain some or all of Asian American women's earnings advantage relative to White women.

If work experience is indeed a contributor to the Asian-White earnings differential among women, it is best to observe women at their early-career stages. Emerging gaps in experience and earnings can thus be observed simultaneously, making it possible to relate them to each other. Additionally, previous research has demonstrated that racial gaps in labor force attachment in the early-career years are influential in shaping racial earnings gaps in later life (Alon and Haberfeld 2007), although this work did not include Asian Americans. If differences in work experience are responsible for Asian American women's higher earnings, then one would expect to see relatively small earnings gaps between Asian American and White women at the beginning of the career, followed by larger gaps later. Thus, to address my research questions it is essential to follow young workers as their careers develop over time.

Data and Methods

Data

I use data from the National Science Foundation's Scientists and Engineers Statistical Data System (SESTAT). This integrated data system combines respondents from three different NSF surveys – the National Survey of College Graduates, the National Survey of Recent College Graduates, and the Survey of Doctorate Recipients. SESTAT is representative of the population of adults with at least a college degree who a) have a bachelor's or higher degree in the natural or social sciences, mathematics, computer science, or engineering, or b) who work in one of those fields. A large cross-section of this population was surveyed in each of four survey years (1993, 1995, 1997, and 1999) and a subsample of each cross-section was then followed into later survey years. Because the purpose of this research is to examine early-career employment patterns and earnings growth, I use only those respondents who were first sampled in 1993 and who were followed until the end of the survey in 1999. I also limit my analysis to respondents within the three youngest age cohorts of the survey, those under the age of 33 in 1993. This group includes 2,648 White women and 457 Asian American women.

SESTAT has both strengths and weaknesses as a data source for studying the career processes of Asian Americans. Its primary strength is that due to its large sample size and the high representation of Asian Americans in the science and engineering fields, SESTAT provides unique longitudinal data about Asian American workers. It has four primary drawbacks: First, the coverage is limited to scientists and engineers, and thus the results are not generalizable to other Asian American or White workers. Second, the sample is only followed for six years. This may not be a sufficient time horizon over which to observe career and earnings development. Third, it does not contain much information pertaining to

the respondent's work history in the 2-year interval between surveys. Reliable work information is limited to the week of April 15 in the year of each survey. With repeated measures, however, it is still possible to differentiate respondents based on the number of survey reference weeks in which they were observed in certain states (such as working full-time versus being out of the labor force). Finally, while the sample size is adequate for studying Asian American scientists in the aggregate, it is not large enough to allow separate analyses by specific ethnic group, nor does it contain measures of specific Asian ethnicity. Given the diversity of sending countries, languages, and cultures among Asian Americans, this is a significant drawback.

I examine three outcome variables: Labor force participation, hours typically worked per week for those who are employed, and earnings. Labor force participation and earnings are measured at each of the four surveys. Hours worked per week were asked about only from 1995 - 1999 (though the 1993 survey asks whether a worker is full-time or part-time), so analyses of work hours do not include 1993 observations. The key independent variable is parenthood status. The survey contains information on the number of children in the household at each wave, but does not ask directly about births or other ways in which children may enter a family. Therefore I infer births from the presence of additional children in the respondent's household since the previous observation. For each survey wave, I create three measures: whether any new child has entered the household since the last survey, whether a first child has entered, and whether a second or higher-order child has entered.

Differences in labor supply uncovered in the analyses of hours worked per week and likelihood of being not in the labor force will be manifested in differences in work experience by the end of the observation period. For my analysis of earnings, I therefore treat work experience at last observation as a summary measure of the differences in labor supply I examine in my first two analyses. I measure work experience based on the respondent's labor force status at each of the four survey waves. I create measures for years of full-time work experience, years of part-time work experience, and years out of the labor force by multiplying the number of years since the first observation by the proportion of observations the respondent was observed to be in each status. For example, if someone worked full-time in 1993, part-time in 1995, and full-time in 1997 and 1999, that person's 1999 full-time work experience would be counted as 4.5 years (6 (# of years) times .75 (proportion of observations working full-time).

In the multivariate models, I include the following control variables: Highest degree type (PhD, Professional, Masters, or Bachelors (omitted)); field of highest degree; whether highest degree was obtained from a U.S. institution; whether current job is within the field of highest degree; whether born in U.S.; and 5-year birth cohort (the survey does not contain a less aggregated measure of age). While ideally multigenerational coresidence would be included in the models, this variable is not measured by SESTAT. It would also be very useful to have a measure of marital status, but unfortunately this information is not included on the public-release file. However, because rates of nonmarital childbearing are low among college graduates (about 7.5% of births to college graduates were nonmarital in 2005, according to the author's calculations based on data from the National Vital Statistics System), and furthermore because previous research has found that the earnings of women

scientists are affected primarily by parenthood, not marriage (Xie and Shauman 2003), this limitation is unlikely to have a significant impact on the results.

Statistical Models

I conduct three sets of multivariate analyses in total. The first two sets examine the effect of having a child on labor force participation and hours worked per week. Because both the independent variable (whether a new child has been added to the family) and the outcomes are time-varying, I format the data into person-periods for these analyses. Each observation of each respondent is treated as a separate case. This allows me to examine the outcome at time *t* as a function of the predictor variables measured at time *t-1*. All data analysis is conducted in Stata Version 10.0. Because observations are not independent within persons, I use Stata's option for computing robust standard errors including a correction for within-person clustering in all person-period analyses.

Using logistic regression, I first model the likelihood of being in the labor force at time *t* as a function of whether a new child has been added to the family between time *t-1* and time *t*, in addition to hours, salary, and control variables measured at time *t-1* (before the addition of the new child). Note that by measuring work-related covariates (such as salary and hours worked per week) at time *t-1* (that is, *before* the birth took place for those women who experienced a birth), I reduce the bias that could otherwise result if women with poorer labor market prospects are simultaneously more likely to experience a birth and more likely to drop out of the labor force. Because I want to capture the effect of a child on the probability of dropping out of the labor force, this analysis is restricted to women who are employed at time *t-1*. Differences in the effect of a child between White and Asian American women are tested by including an interaction term between having a child and being Asian American.

Previous research on the effect of children on women's labor market outcomes has found that these effects may differ by parity (Waldfogel 1997). I therefore conduct this analysis twice, once for women who do not have children at time *t-1* in order to estimate the effect of having a first child, and again among women who are already mothers at time *t-1* in order to estimate the effect of a second- or higher-order child. I model the relationship between having a child and hours worked per week in exactly the same way, except I use OLS rather than logistic regression.

Finally, the third set of models examines earnings growth from first to last observation. My goals are twofold: First, to establish whether earnings grow at the same rate for Asian Americans as for Whites; second, to test the contributions of labor supply differences to explaining differences in earnings growth. I model labor supply differences as cumulative work experience over the observation period. For this portion of the analysis, I looked at change in both annual salary and hourly earnings, but present results here for annual salary only. Annual salary is the preferred earnings measure because most of the workers in this highly-educated sample are paid on a salary basis, not on an hourly basis. This measure is thus more relevant and meaningful for them. It is also more likely to be correlated with long-term earnings and career prospects, since many salaried professional jobs (e.g., medical residents, assistant professors) require disproportionately large time commitments in the early-career stages.

I first model earnings at first observation in 1993 to establish baseline differences between Asian American and White women, both unadjusted and net of control variables. I expect these initial differences to be small net of covariates. I then address Asian-White differences in earnings growth by estimating a series of three nested models in which 1999 earnings are regressed on 1993 earnings, a dummy variable indicating being Asian American, and other variables as appropriate. In each model, the coefficient on the Asian American dummy variable indicates the difference between Asian Americans and Whites in earnings growth between 1993 and 1999, net of the effect of 1993 earnings differences and other independent variables. The roles of control variables and labor supply in creating differences in earnings growth are tested by adding them sequentially to the model. Current labor supply is measured by 1999 hours worked per week, while past labor supply is measured as accumulated full- and part-time work experience between 1993 and 1999.

Results

Descriptive Results

The Appendix presents means (proportions) of the control variables used in the analysis. Differences between Asian American and White women scientists and engineers largely parallel differences found by studies using nationally representative samples. Even within this highly educated subgroup of women, Asian American women are more likely to hold graduate degrees. They are also far more likely to be foreign-born. It is worth noting that although 65% of the Asian sample is foreign-born, nearly 90% hold their highest degree from a U. S. institution. Finally, Asian American women's degrees are concentrated in different fields than those of White women, with more Asian Americans mathematics and engineering and fewer in the social sciences. These differences are all potentially relevant to earnings, highlighting the need to control for them in multivariate analyses.

Descriptive analyses of the study's key variables are presented in Table 1. The first panel in Table 1 shows differences in labor supply for all women, regardless of parenthood status. It shows that labor supply is significantly associated with race. Specifically, White women are less likely to work full-time than Asian American women, more likely to work part-time, and slightly more likely to be out of the labor force. Correspondingly, over the six-year observation period White women's average accumulation of full-time work experience is about .37 years lower than that of Asian Americans. The two groups are fairly similar in their family formation behavior over the study period. While more Asian American than White women have children at the first observation, similar proportions go on to have a birth during the study period, and there is no difference in the average number of children at the end of the study period. There are also no differences by parity in the likelihood of having a child.

The remainder of the table shows change in work patterns surrounding the arrival of a new child. Because there is no way to know the timing of the child's arrival during the two-year interval between observations, the observation after the arrival could be anywhere from a few days up to two years later. As was also true for the overall sample, in the observation before a child's arrival White women are somewhat less likely than Asian American women to be working full-time, and somewhat more likely to be working part-time. They also work

slightly fewer hours per week. At the observation after the new child, these differences have uniformly widened. At the observation before a new child's arrival White women were about 5 percentage points less likely than Asian American women to be working full-time, while at the observation following a new child's arrival they are 13 percentage points less likely. While the change is not as large, Asian-White differences in part-time work and being out of the labor force are also greater after the arrival of a new child.

The last two panels show patterns of transitions among possible work statuses between the observations preceding and following the arrival of a new child. For White women, about 62% are working full-time before a child's arrival and continue to do so after the arrival – thus making no adjustment in labor supply. About 15% transition from full-time to part-time work, and about 9.6% transition from working to being out of the labor force. Asian women are noticeably more likely to work full-time and continue to do so after a new child, with 75% falling into this category. They are also apparently less likely to drop out of the labor force. The last panel repeats this analysis for just the subset of women who were working full-time before the child's arrival. We can see here that some of the racial differences in the second-to-last panel were due to Asian women's greater likelihood of working full-time at the pre-child observation rather than in racial differences in responses to parenthood. Nonetheless, even among this more select sample, Asian American women appear to be more likely to continue working full-time, somewhat less likely to transition to part-time work, and less likely to drop out of the labor force.

Labor Supply

Results for remaining in the labor force at the observation after the arrival of a new child are presented in Table 2. Because preliminary analyses revealed significant differences by parity in the effect of children, results are presented separately for first children and for second-or-later children (sample size is insufficient to further distinguish between higher-order children). Coefficients are from logit models and thus represent changes in log-odds associated with the independent variables. Odds ratios are also presented.

The first model establishes baseline differences in being in the labor force between Asian American and White women. This model includes all women in the sample, so it is not nested with the following two models, but results were nearly identical when models were run separately for women who had no children at *t-1* (corresponding to the "First Child" analysis) and who had children at *t-1* (corresponding to the "Second or Later Child" analysis). The statistically significant Asian coefficient indicates that Asian American women are more likely to be in the labor force than White women (odds ratio = 1.67). The analysis presented in the second panel of Table 2 (columns labeled "First Child") examines the odds of being in the labor force at time *t* among women who had no children at time *t-1*. The model indicates that the odds of being in the labor force for women who have had a child since the last observation are only .13 times those of women who have not had a child, controlling for prior salary, hours, education, birth cohort, and field. There is no significant racial difference in the odds of being in the labor force after inclusion of these controls, nor is there any significant interaction between race and having had a child.

The last panel in Table 2 shows the relationship between having a second- or higher-order child on the odds of being in the labor force. These results were calculated from a sample of women who already had children at time *t-1*, yielding a comparison between mothers who experience an additional birth and those who do not. The model reveals that having a second child is negatively associated with the odds of being in the labor force, but its effect appears noticeably smaller than that of having a first child. The interaction between being Asian and having a child is positive and statistically significant. This model shows that while for White women having a higher-order child does decrease the likelihood of being in the labor force, for Asian Americans it does not – the total effect of a new child for Asian Americans, in terms of log-odds (.8 + -1.81), is actually negative. By demonstrating that there is a stronger relationship between children and being in the labor force for White than for Asian American women, this result provides partial support for Hypothesis 1.

Results for hours worked per week are presented in Table 3. Again, the baseline difference in hours between Asian American and White women is presented first, followed by separate results for first children and for second-and-higher children. Asian American women work an average of 2.29 more hours per week than White women overall, and this difference is statistically significant. The results for first children reveal a significant interaction between having a first child and being Asian American. The model shows that White women reduce their hours by about 6.2 hours a week following a first birth, but that Asian American women only reduce theirs by about 3.5 (-6.2 + 2.7).

The final panel of Table 3 gives results for the effect of a second-or-higher child on hours. Only mothers are included in this analysis. While the model shows that there is still a significant reduction in hours following the arrival of an additional child, it is considerably smaller than that associated with a first child. There is no significant difference in the size of this reduction between Asian American and White women. Overall, the results from Table 4 indicate that Asian American women curtail their hours less in response to motherhood than White women after the birth of a first child, but that later children do not lead to the development of additional differences. Like the results for labor force participation, the results for hours thus support Hypothesis 1.

Earnings

So far, I have examined differences between Asian American and White women in adjustments in labor supply in response to parenthood. Next, I turn to the implications of these differences for earnings. Asian-White differences in logged annual salary at the baseline in 1993 are presented in the first panel of Table 4. As shown in Column (1), by 1993 the Asian American women in the sample were already earning approximately 7.5% more per year than the White women. Column (2), however, shows that in 1993 this entire difference can be explained by the human capital and other control variables in the model. Supplementary analyses (available upon request) showed that the vast majority of this change was due to the inclusion of the controls for highest degree type. In the early-career stages, then, Asian American and White women with comparable levels of education also have comparable earnings.

The next three columns examine salary growth from 1993 to 1999. In each model, 1999 earnings are regressed on 1993 earnings and other covariates. The inclusion of 1993 earnings in the models means that coefficients on other variables represent effects on earnings in 1999 net of earnings differences that already existed by 1993 – essentially, effects on earnings growth. Column (3) shows that without adjusting for any covariates, Asian American women experience significantly higher earnings growth from 1993 to 1999 than White women – an additional increase in log salary of about .14, or in percentage terms, about an additional 15% growth over the 6-year period. Part of this difference is attributable to differences in the covariates included in Column (4). After the addition of these covariates, the Asian-White difference is somewhat smaller at .095, but still significant. The model presented in Column (6) adds measures of full-time work experience, part-time work experience, and current hours worked per week. Together, these variables measure cumulative labor supply over the period from 1993 to 1999. Their inclusion in the model causes the Asian-White difference to drop from .095 to .038 and renders it statistically insignificant. The remaining difference in earnings growth between Asian American and White women is thus attributable to Asian American women's higher labor supply over the 1993-1999 period. Additional models (not shown) indicated that that both past work experience and current hours worked were important in explaining the Asian-White difference. Either variable alone was sufficient to cause the Asian indicator to lose statistical significance. However, the coefficient size of the Asian indicator was greatly reduced – on the order of about .05 – when including both work experience and hours together in the model, relative to either individually. The results in Table 4 thus provide support for Hypothesis 2.

Discussion

By examining the process through which earnings differences between Asian American and White women scientists and engineers emerge over time, this study has identified possible reasons for the heretofore unexplained earnings "advantage" of Asian American women. Among scientists and engineers who are still in the early career stages, Asian American women's higher earnings are due almost entirely to their high educational attainment. There is no unexplained earnings "advantage" early in the career trajectory. Over time, however, Asian women's earnings grow faster than those of White women, creating an unexplained gap later in the career trajectory. This study tested the hypothesis that labor supply differences over the early-career years explain the greater earnings growth of Asian American women (Hypothesis 2). The findings support Hypothesis 2, demonstrating that Asian American women's higher labor supply, in the form of greater accumulation of work experience and smaller reductions in hours worked per week over the observation period, does indeed account for the unexplained portion of Asian American women's higher earnings growth rates.

The results also demonstrate that Asian American and White women's different responses to parenthood contribute to these differences in labor supply, providing support for the paper's other main hypothesis (Hypothesis 1). After controlling for Asian-White differences in covariates, Asian American women are less likely than White women to take time out of the labor force in response to having a child. They also make smaller reductions in the hours

they work per week. But these general effects obscure interesting differences by parity, which can be summarized as follows: If Asian American women are going to drop out of the labor force in response to parenthood, they do it after the first child. Given that they are still employed at the time of a subsequent child's arrival, the additional child does not increase their likelihood of dropping out. For White women, by contrast, both first and later children increase the likelihood of dropping out. Among mothers who remain employed after a first child, White women make greater reductions in hours worked than Asian American women, and this Asian-White difference is not changed by the arrival of a subsequent child. These differences, while unexpectedly complex, ultimately lead to higher labor supply among Asian American mothers than among their White counterparts. While previous research has indicated a lower correlation between having children at home and women's labor force participation for Asian American than for White women (Agbayani-Siewert and Jones 1997; Foroutan 2008), this paper is the first to study *changes* in labor force participation following birth using a longitudinal sample. It is also the first to show that the effect of children on Asian American women's labor force participation varies by parity.

How robust are these findings? Potential limitations of the analysis fall into two primary categories: Data limitations and selection bias. The data, while unique in enabling a longitudinal analysis of earnings among Asian Americans, are not ideally suited for studying career development or earnings growth. In particular, the issues of the narrowly targeted sample and the lack of information on the period between survey waves deserve further comment. The sample is composed entirely of women with science and engineering degrees or who are part of the science and engineering work force. All have at least a college degree. Highly educated women and those in male-dominated occupations such as science and engineering are generally thought to have a high level of work commitment, which is confirmed in this sample: Only 5% of women are observed to be not working at more than one of the four surveys. The range of women's labor market behavior observed in this sample is thus truncated. Because the gender composition of an occupation is highly correlated with the average earnings within that occupation (Kmec 2005), the fact that all Asian American and White women in this study are in male-dominated fields likely compresses their earnings distribution. Asian American women are overrepresented in the science and engineering occupations, which pay relatively well, so it is likely that this analysis would find greater earnings differentials between Asian American and White women if it could be repeated using a nationally representative sample. The current analysis is unable to test the role of occupational sorting in generating earnings differences between Asian American and White women.

At the same time, previous literature gives reason to believe that the results showing that Asian American women have a higher work commitment may not be terribly different if the analysis could be repeated using a nationally representative sample. Espiritu (2008, 1999) shows that women's work commitment is quite high in working-class and self-employed Asian immigrant families as well as in the highly educated professional classes, although the specific mechanisms leading to this high work commitment vary by social class. Her analysis is consistent with evidence from the U.S. Census, which has shown that Asian American women historically have had higher labor force participation rates than White

women (Xie and Goyette 2004). In one of few studies to consider the contribution of family factors to Asian American women's labor force outcomes, Greenman and Xie (2008), in an analysis of data from the 2000 Census, found evidence of higher labor force participation among several groups of Asian American mothers with young children than among similar White mothers. Overall, the evidence on labor force participation from the current study is thus consistent with expectations derived from previous studies based on nationally representative data.

The gap between survey waves presents another potential threat to the robustness of the findings. The survey was conducted only every two years, and few questions were asked about events between surveys – thus creating a "missing data" problem for periods between surveys. This problem affects the present analysis by compromising my ability to measure work experience accurately. Being out of the labor force is measured only at a single point in time at each survey. Because being out of the labor force typically seems to be a temporary state for this sample (less than 5% are observed to be out of the labor force for more than one observation), it is likely that a large portion of shorter employment breaks take place between surveys and are thus not observed. These problems are compounded by the lack of information about the timing of the arrival of new children between surveys. If a typical employment break following a birth is one year, for example, then such an employment break would not be observed for half the women who had a child between surveys.

This data limitation could potentially affect comparisons between Asian American and White women. Not observing employment breaks necessarily results in over-estimating work experience during the 1993-1999 period. Because there is no pattern as to whose spells will be observed and whose will not, it also introduces an element of random error to the measurement of work experience. As is well known, this kind of measurement error on the independent variable can cause attenuation bias. Given that being Asian American is positively associated with work experience, attenuation bias on the effect of work experience could cause positive bias on the estimated effect of being Asian American. However, my models that include work experience show a positive but small and statistically insignificant effect of being Asian American; thus, there is no remaining significant difference between Asian Americans and Whites that could be caused by a biased effect of work experience.

A second source of potential problems is bias resulting from selection. Researchers on the relationship between children and women's earnings have long recognized the potential for results to be biased due to selectivity of women, especially mothers, into the labor force (Korenman and Neumark 1992). For example, if women with the highest earnings are those most likely to return to work after having children, the apparent effect of children on women's earnings would then be underestimated due earnings being observed only among the higher-earning mothers. Although providing accurate estimates of the effect of children on women's earnings is not the goal of this analysis, this type of selectivity could still have implications for the results. The results show that Asian American women have higher earnings and earnings growth than White women; however, if selectivity into the labor force operates differently for Asian Americans and Whites, this finding could be unreliable. If

Asian American women were selected into the labor force based on high earnings to a greater extent that White women, this could account for the difference I find. However, there is no indication of such selectivity in this sample: Controlling for previous earnings, Asian American women are actually *less* likely than White women to be out of the labor force following the addition of a child. It is more likely that selection bias would cause an underestimate of the difference between Asian Americans and Whites: If the "extra" White women who are not working are those with lower earnings, estimates of White women's average earnings would be upwardly biased.

Finally, even if there are no biases resulting from selection into the labor force, the earnings analysis may still understate differences in economic outcomes between Asian American and White women. By considering only the group of women who have observed earnings in 1999, the comparison does not take into account racial differences in having zero earnings – in other words, in being not in the labor force. Because White women are more likely to be not in the labor force, this comparison likely underestimates Asian-White differences.

This possibility was explored through supplementary analyses using tobit models. Tobit models are designed to correct for selection caused by censoring of the type encountered here, in which the earnings of women not in the labor force are not observed, by allowing the inclusion of units with censored information in the analysis. I repeated several of the earnings growth models presented in Table 4 using tobit models instead of OLS regression (results available upon request). The tobit models gave a considerably higher estimate of the unadjusted difference between Asian American and White women in 1993-1999 earnings growth. After accounting for differences in covariates, however, the tobit estimates were no longer much different from those of OLS. Thus, the adjusted models presented in Table 4 are unlikely to be highly biased due to White women's greater propensity to be out of the labor force. In conclusion, although it is not possible to prove that the results are not biased by any of the limitations discussed above, various analyses have failed to uncover any evidence of such bias.

Conclusion

This paper proposed that lower gender role specialization among Asian American couples might contribute to both Asian American women's high earnings and the smaller gender earnings gap among Asian Americans. As far as these results go, they provide support for this hypothesis. Asian American women are less likely than White women to respond to parenthood with reductions in labor supply, and their greater work experience accumulation over time explains their high rate of earnings growth. The high earnings of Asian American women also account for the lower gender gap among Asian Americans. However, gender role specialization by definition encompasses men equally with women. The next crucial task in the investigation of racial differences in gender role specialization as a contributor to racial differences in the gender earnings gap is to bring men back into the picture.

The ideal analysis would examine domestic labor and outside employment simultaneously for both men and women using a nationally representative sample. For models of gender role specialization within partnerships, the couple, rather than the woman, would be the

primary unit of analysis. As has been shown by Pixley (2008), the labor market outcomes of both men and women in dual-career couples are affected by many decisions made by couples, over time – not just by the individual early-career "investment" decisions emphasized by human capital theory. Furthermore, the ideal analysis would explicitly consider racial differences in selectivity into marriage, thus no longer limiting the analysis to married or partnered individuals. The relationship between women's and men's career prospects, earnings potential, and the probability of getting married is known to vary by race (Oppenheimer, Kalmijn, and Lim 1997); thus racial differences in gender role specialization within marriage could result in part from racial differences in who gets married.

Unfortunately, at least for Asian Americans, no data exist that would make this kind of analysis possible. In absence of such data, however, the results of this study provide support for the part played by lower gender role specialization among Asian American couples in producing their lower gender earnings gap, at least among the highly educated. Although we still know little about the male side of the equation, we do now have evidence that Asian American women do not make the type of career adjustments predicted by role specialization theory to the same extent as White women do, even controlling for prior investments in work experience and education. This finding presents a challenge to role specialization theory. The fact that it applies better to some racial groups than others suggests that families do not make decisions about the household division of labor solely on the basis of maximizing returns to the labor of different household members. Instead, it is likely that cultural expectations and beliefs about gender, work and family, in addition to other non-economic factors, also play a role.

A framework that explicitly recognizes the role of emotion and beliefs is provided by Blair-Loy (2003). Blair-Loy finds that workers' deeply held beliefs about gender and what is required to be both a "good parent" and a "good worker" can trump economic factors in household decision-making, producing results that are inconsistent with role specialization theory (such as a higher-paid wife dropping out of the labor force following childbirth while her lower-paid husband continues to work full-time). The results of the present study are consistent with the speculation that Blair-Loy's "family devotion schema", in which female workers feel that they need to prioritize spending time with children over paid work in order to be "good" mothers, may apply to White women more than to Asian American women. This study and previous studies of economic strategies in Asian American families suggest an alternative model, which I will refer to as a "family investment" model, that is more consistent with the labor market behavior of Asian American women (see Duleep and Sanders (1993) for a description of a similar, but more limited, "family investment strategy"). In this model, which applies particularly well to immigrant families, women's earnings are seen as a necessary part of the family's longer-term strategy for economic security and intergenerational mobility. Grandparents may invest in the extended family by caring for grandchildren so that women are free to work full-time. Women's earnings, in turn, facilitate investments in children's education, and in some cases in husbands' human capital development. Thus, families may view women's labor force participation both as inevitable and as compatible with women's responsibilities toward other family members, including children. In turn, this is likely to lead to a subjective feeling of high work commitment among women, which further encourages continued labor force participation.

Indeed, empirical work has found that women's high levels of work commitment prior to having children significantly lower their chances of dropping out of the labor force following the transition to parenthood (Kan 2007).

In sum, while this analysis has focused on a specific sample of Asian American and White women scientists and engineers, its findings have broader implications for the study of racial variation in how families allocate labor. It is necessary to look beyond rational economic decision-making and to consider the unique circumstances that may lead different racial and ethnic groups to have varying beliefs, values, and expectations regarding how work and family responsibilities relate to one another. As the data used in this paper lack measurement of such beliefs, values and expectations, the results are merely suggestive of their potential importance. It is to be hoped that future scholarship will provide further exploration of these issues.

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Appendix

Means of control variables, by race

	White	Asian
Bachelor's	0.689	0.586
Master's	0.210	0.270
PhD	0.015	0.053
Professional	0.086	0.092
Born 1960-1964	0.599	0.584
Born 1965-1969	0.364	0.385
Born 1970-1974	0.036	0.031
Foreign-Born	0.040	0.654
Working outside Field	0.201	0.206
Mathematics degree	0.102	0.209
Biology degree	0.130	0.105
Physical Sciences degree	0.031	0.051
Social Sciences degree	0.358	0.206
Engineering degree	0.077	0.147
Non-S/E degree	0.302	0.283
U.S. Highest degree	0.994	0.897

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Biography

Emily Greenman is an assistant professor of Sociology and Demography at Penn State University. Her published work includes "Double Jeopardy? The Interaction of Race and Gender on Earnings in the U.S." (with Yu Xie, 2008). Her research interests include the effect of family on women's earnings and educational outcomes of children of immigrants.

Table 1

Descriptive Statistics on Labor Force Status and Parenthood

	White	Asian	Difference	Sig
LF Status (person-period data)				
Full-Time	80.8	86.0	-5.2	
Part-Time	14.6	10.5	4.1	Chi2=46.4, ***
Not in Labor Force	5.7	4.9	0.8	
Mean logged annual salary (person-period data)	10.42	10.61	-0.19	***
Mean change in logged salary from first to last obs	0.260	0.353	-0.09	*
Work experience at last obs				
Full-time	4.82	5.19	-0.370	***
Part-time	0.87	0.56	0.308	***
NILF	0.30	0.25	0.044	*
Parenthood Transitions				
% w/ children at first observation	24.8	30.2	-5.4	*
% w/ new child during study	45.3	43.3	2.0	NS
% w/ first child during study	41.8	39.7	2.1	NS
% w/ 2nd+ child during study	13.9	15.6	-1.7	NS
Avg family size at last observation (for those w/ kids)	1.8	1.8	0.0	NS
Observation before new child				
% Working Full-Time	84.3	89.6	-5.3	
% Working Part-Time	13.8	6.7	7.1	Chi2=7.49, **
% Not in Labor Force	2.0	3.8	-1.8	
Avg hours worked/week	41.0	43.6	-2.6	*
Observation after new child				
% Working Full-Time	61.7	74.7	-13.0	
% Working Part-Time	24.7	15.8	8.9	Chi2=15.8, ***
% Not in Labor Force	13.5	9.5	4.0	
Avg hours worked/week	36.9	41.2	-4.4	**
LF Status Transitions after New Child				
Full-Time to Full-Time	62.1	75.4	-13.3	
Full-Time to Part-Time	15.0	13.2	1.8	Chi2=16.03, ***
Working (FT or PT) to NILF	9.6	3.6	6.0	
Part-Time to Part-Time	13.4	7.9	5.5	
LF Transitions for prior FT workers				
Full-Time to Full-Time	70.8	79.7	-8.9	
Full-Time to Part-Time	17.1	13.9	3.2	Chi2=7.79, **
Full-Time to NILF	12.1	6.4	5.7	

NS=not significant,

* p<.1,

** p<.05,

*** p<.01

Note: Reported significance tests are t-tests for differences in means and chi-square tests for multiple-category comparisons (such as as full-time, part-time, and not in the labor force)

Table 2

The Effect of Having a New Child on Being in the Labor Force

	Unadjusted Asian-White Difference[a]			First Child[b]			Second or Later Child[c]		
	B	*SE*	*OR*	*B*	*SE*	*OR*	*B*	*SE*	*OR*
Had Child				-2.01 ***	0.19	0.13	-0.80 ***	0.21	0.45
Asian	0.51 **	0.20	1.67	0.53	0.46	1.69	-0.16	0.39	0.85
Asian*Child				-0.41	0.61	0.66	1.81 **	0.78	6.14
Annual Salary				0.15	0.16	1.17	0.02	0.18	1.02
Previous Hours				0.01	0.01	1.01	0.06 ***	0.01	1.06
Master's				0.60 **	0.26	1.82	0.19	0.25	1.21
PhD				0.77 **	0.31	2.16	1.38 ***	0.38	3.98
Professional				0.29	0.43	1.34	1.77	1.08	5.86
Born 1960-1964				-0.27	0.47	0.76	--	--	--
Born 1965-1969				-0.27	0.47	0.76	--	--	--
Foreign-Born				-0.02	0.35	0.98	-0.20	0.36	0.82
Working outside Field				-0.15	0.23	0.86	0.29	0.25	1.34
Biology				-0.82 **	0.38	0.44	-0.3	0.35	0.73
Physical Sciences				-1.02 **	0.42	0.36	-0.2	0.46	0.81
Social Sciences				-0.82 **	0.35	0.44	-0.46	0.32	0.63
Engineering				-0.68 *	0.37	0.50	-0.29	0.30	0.75
Non S/E				-0.97 **	0.40	0.38	0.44	0.40	1.56
U.S. Highest Degree				-0.43	1.06	0.65	0.49	0.53	1.64
Constant	2.77		16.01	3.06	(1.966)	21.36	0.03	1.62	1.03

Note: Coefficients shown are from logistic regression. Data is in the form of person-periods. All independent variables are measured at time *t-1*. Omitted categories of categorical independent variables are: Bachelor's degree, Born 1970-1975, Native-born, Working in Field of Highest Degree, and Math/Computer Science degree.

a) Model includes all women (N= 6927 person periods).

b) Model includes only women without children at time *t-1* (N= 4513 person periods).

c) Model includes only women with children at time *t-1* (N= 2197 person periods). Due to the low number of second births for younger women, the effects of cohort could not be estimated.

* p<.1,

** p<.05,

*** p<.01.

Table 3

The Effect of Having a New Child on Hours Worked per Week

	Unadjusted Asian-White Difference[a]			First Child[b]			Second or Later Child[c]		
	B		***SE***	***B***		***SE***	***B***		***SE***
Had Child				-6.23	***	0.57	-1.98	***	0.56
Asian	2.29	***	0.57	0.12		0.62	0.30		0.66
Asian*Child				2.72	**	1.33	0.35		1.43
Annual Salary				0.66		0.47	1.15	***	0.42
Previous Hours				0.51	***	0.03	0.64	***	0.03
Master's				-0.92	*	0.49	-0.74		0.57
PhD				2.21	***	0.64	0.72		0.64
Professional				1.51		1.09	-1.84	*	0.99
Born 1960-1964				-1.21		1.03	-5.87		3.54
Born 1965-1969				-1.20		1.02	-6.36	*	3.57
Foreign-Born				-0.02		0.65	0.28		0.66
Working outside Field				0.30		0.52	0.79		0.62
Biology				-0.09		0.70	0.25		0.80
Physical Sciences				-0.91		0.81	1.20		0.86
Social Sciences				-1.19	*	0.62	0.08		0.74
Engineering				0.03		0.55	0.68		0.66
Non-S/E				0.11		0.68	0.97		0.77
U.S. Highest degree				2.00		1.75	1.07		1.25
Constant	42.33		0.24	14.75	***	4.96	6.45		5.47

Note: Coefficients shown are from OLS regression. Data is in the form of person-periods. Due to lack of information on work hours in the 1993 survey, these models include only observations from 1995-1999. All independent variables are measured at time *t-1*. Omitted categories of categorical independent variables are: Bachelor's degree, Born 1970-1975, Native-born, Working in Field of Highest Degree, and Math/Computer Science degree.

[a] Model includes all women (N= 4255 person periods).

[b] Model includes only women without children at time *t-1* (N= 2587 person periods).

[c] Model includes only women with children at time *t-1* (N= 1567 person periods).

*p<.1,

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** $p<.05$,

*** $p<.01$.

Table 4

Asian-White Differences in Earnings and Earnings Growth

	1993 Salary						Salary growth, 1993-1999								
	(1) Unadjusted			(2) Adjusted			(3) Unadjusted			(4) Adjusted			(5) Adjusted w/Experience		
	B		*SE*	*B*		*SE*	*B*		*SE*	*B*		*SE*	*B*		*SE*
Asian	0.074	***	0.026	0.030		0.026	0.139	***	0.037	0.095	**	0.043	0.037		0.038
1993 Salary				--		--	0.695	***	0.032	0.614	***	0.037	0.573	***	0.032
Hours/week				0.004	***	0.001				--		--	0.017	***	0.001
Master's				0.070	***	0.023				-0.020		0.037	0.004		0.033
PhD				0.131	***	0.027				0.228	***	0.043	0.123	***	0.038
Professional				0.202	***	0.044				0.225	***	0.072	0.196	***	0.063
Born 1960-1964				0.405	***	0.049				-0.232	***	0.083	-0.128	*	0.073
Born 1965-1969				0.180	***	0.049				-0.171	**	0.082	-0.103		0.072
Foreign-Born				-0.017		0.028				0.040		0.046	0.068	*	0.040
Working outside Field				-0.122	***	0.025				0.104	**	0.043	0.068	*	0.037
Biology				-0.291	***	0.031				-0.130	**	0.052	-0.161	***	0.045
Physical Sciences				-0.142	***	0.035				-0.089		0.058	-0.090	*	0.051
Social Sciences				-0.262	***	0.028				-0.203	***	0.047	-0.186	***	0.041
Engineering				0.099	***	0.028				0.060		0.046	0.021		0.040
Non-S/E				-0.071	**	0.033				0.012		0.055	-0.030		0.048
U.S. Highest degree				0.214	***	0.068				0.259	**	0.112	0.222	**	0.098
FT experience													0.292	***	0.033
PT experience											--	--	0.210	***	0.036
Constant	10.424	***	0.010	9.807	***	0.101	3.479	***	0.331	4.279	***	0.394	2.27	***	0.391

Note: Coefficients shown are from OLS regression with the dependent variable in log form. All independent variables are measured in 1993. Omitted categories of categorical independent variables are: Bachelor's degree, Born 1970-1975, Native-born, Working in Field of Highest Degree, and Math/Computer Science degree. N=2032.

* p<.1,

** p<.05,

*** p<.01.