Employment and the Sexual and Reproductive Behavior of Female Adolescents

CONTEXT: *Women's employment opportunities may reduce the risk of early intercourse and pregnancy, but some evidence has linked adolescent employment and problem behaviors with early intercourse.*

METHODS: *Hazard regression analyses of data from the National Longitudinal Survey of Youth were used to examine the relationship between employment and the risk of first intercourse before age 20 among women who were aged 14–16 in 1979. The relationship between employment and the risk of a first, nonmarital pregnancy among sexually experienced young women was also assessed.*

RESULTS: *Current employment and cumulative months of past employment are associated with increased hazards of first intercourse (hazard ratios, 1.20 and 1.01, respectively); this association is particularly strong for white young women. Adolescents who work more than 120 hours a month are significantly more likely than nonworking adolescents to experience first intercourse (1.4). Although current employment has no effect on the likelihood of a first, nonmarital pregnancy among white adolescents, it is associated with an increased risk of pregnancy among blacks and with a reduced risk of pregnancy among Hispanics.*

CONCLUSIONS: *Program planners and policymakers should be aware of the potential association between adolescent employment, particularly intense employment, and the likelihood of initiating intercourse and experiencing pregnancy, even if causality is still unclear.*

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Although adolescent pregnancy rates in the United States have declined since the early 1990s, they remain among the highest in the developed world.[1] Such high pregnancy rates—and their accompanying high birthrates—are a concern, even though the extent to which teenage childbearing is detrimental has been debated. Most observers agree that early childbearing brings nontrivial negative consequences.[2] Early sexual debut is also a concern, because it potentially increases both the risk of pregnancy and the risk of acquiring and transmitting sexually transmitted diseases.

The determinants of sexual activity and pregnancy among adolescent women have been studied and summarized extensively.[3] For our study, in which we examine the relationship between adolescents' employment and their sexual and reproductive behavior, previous research on the behavioral effects of labor-market conditions is particularly relevant. In some of that research, employment opportunities were shown to be possibly associated with a reduced risk of early intercourse and pregnancy. If those findings are true, they could suggest approaches to reducing pregnancy rates and birthrates among teenagers; they could also suggest that the direct provision of employment might play a role in reducing the risk of pregnancy. Other relevant studies looked at the link between adolescent employment and problem behaviors, such as delinquency, smoking and using alcohol or drugs, and, in turn, how those problems raised the risk of early intercourse and pregnancy, thus suggesting that employment indirectly raises the risk of negative sexual and reproductive health outcomes.

In terms of the effects of labor-market conditions, for example, research suggested that in areas where few legitimate opportunities for achieving adult status exist, early sexual activity may serve as a marker of having achieved that status.[4] The lack of economic opportunities in those communities may also lessen the perceived costs of engaging in early, nonmarital sexual activity. Similarly, census-tract data have shown that unemployment among young women raises their risk of first intercourse,[5] and still other research suggests that more favorable labor-force opportunities for women increase their likelihood of using contraceptives at first intercourse.[6]

Just as community-level economic opportunities might influence young women's perceptions of and expectations for their lives, so might their actual employment experiences. For example, the perceived cost of an unintended birth may be elevated for a young woman who is employed. In addition, young women who have had positive experiences in the labor force will presumably work more and have higher expectations than those who have had negative experiences.[7] These higher expectations, in turn, might lower their propensity to engage in sexual activity or raise their likelihood of using contraceptives. Employment may also simply reduce the time available to engage in sexual activity.

However, this dampening effect of employment on early

sexual activity or pregnancy might result solely from the characteristics of young women who choose to work. For example, the higher career aspirations among such young women might also make them less likely than others to risk a nonmarital pregnancy. Put another way, young women may simultaneously choose to invest in their human capital (by working) and to minimize their risk of pregnancy (by abstaining from sexual intercourse or by using contraceptives when they have sex). In this case, the negative relationship between employment and sexual activity and pregnancy would remain, whether the relationship is causal or not.

Additional research has shown that women aged 16–28 who have had more consecutive months of employment are less likely than those who are unemployed to experience a first, nonmarital pregnancy.[8] This finding is consistent with both the selection-bias hypothesis and the hypothesis that positive workforce experiences heighten expectations. Still other research, however, has failed to find a relationship between previous employment and sexual debut among adolescents.[9] Moreover, no one has examined the relationship between current employment and the risk of first intercourse or pregnancy.

Despite the evidence that work decreases the risk of early sexual activity or pregnancy, there are reasons to believe that employment, especially intensive employment, might increase the risk of these outcomes by reducing parental monitoring. For example, in one study, adolescents who worked more hours were significantly less likely to have to inform their parents of their whereabouts at all times.[10] In another study, adolescents' autonomy increased with the number of hours they worked.[11]

Adolescent employment has also been associated with some risky behaviors, such as drug and alcohol abuse,[12] presumably because work might increase adolescents' time spent dating, as well as expose them to the influence of delinquent peers and give them opportunities to drink alcohol. Reduced parental supervision may also be a factor in this association. Since substance use, delinquency, friendships with delinquent peers and early sexual activity are linked,[13] if working encourages substance use or exposes adolescents to peers who are delinquent or use illicit substances, then employment may indirectly increase the risk of early sexual activity and pregnancy. Furthermore, employment could raise the risk of early sexual activity or pregnancy simply because young women who desire autonomy from their parents are more likely both to work and to engage in adult behaviors.

In our study, we extend this body of research in several ways. First, while previous research relied on the dichotomous indicator of whether a young woman ever worked,[14] we refine this measurement by incorporating detailed, week-by-week information on young women's employment experiences. We relate an indicator of monthly employment status and hours worked to the monthly hazard of first intercourse and of a first, nonmarital pregnancy.

Second, because researchers have hypothesized that previous and current work experience may be important, we consider the impact of both of these variables. Finally, because prior research has shown that the negative consequences of employment arise primarily among adolescents who work 20 or more hours per week,[15] we also consider the effect of the intensity of employment.

METHODS

Data

The analysis is based on a sample of young women from the National Longitudinal Survey of Youth (NLSY). The original cohort for the NLSY consisted of 12,686 young people who were aged 14–22 at the time of their first interview in early 1979. That sample was drawn in three stages: a cross-sectional sample; a supplemental sample of blacks, Hispanics and economically disadvantaged whites; and a sample of youth who were serving in the military. In our study, we exclude young women who were in the military.

We use data from the annual NLSY interviews from 1979 through 1984 to gauge the effects of employment on both the risk of first intercourse and the risk of a first, nonmarital pregnancy during adolescence (i.e., before age 20). Our analysis draws on the NLSY work history file, which contains weekly information on individuals' employment status starting in January 1978.

An important limitation of our analysis is that pregnancies—and nonmarital pregnancies in particular—are underreported in the NLSY.[16] Because older adolescents are more likely than younger adolescents to experience a pregnancy, we restricted the sample for our overall analysis to the youngest women—1,979 females who were aged 14–16 at their initial interview. Focusing on the youngest NLSY respondents meant that only 42 women who had already been pregnant before 1978 had to be eliminated from our analyses. Also, we have no way of knowing how many young women in the overall sample failed to report a pregnancy after 1978.

Since underreporting of early, nonmarital pregnancies may be especially high among women from minority groups,[17] our findings on the effect of employment on the risk of a first pregnancy for blacks and Hispanics should be interpreted with caution. Moreover, if employment is positively correlated with a tendency to underreport a pregnancy, then the estimated effect of being employed will be attenuated. Alternatively, the effect will be overestimated if having a job is negatively correlated with the tendency to underreport. However, no current evidence suggests that working adolescents differ from nonworking adolescents in their likelihood of reporting pregnancies.

For the analysis of risk of first intercourse, we excluded 134 young women who reported having had sexual intercourse before 1978 and 83 who said they had already had sex, but who did not report the month and year in which their sexual debut occurred. After we excluded the 77 women for whom data were missing, the final sample for the analysis of first intercourse consisted of 1,685 women.

For the analysis of the risk of a first, nonmarital pregnancy, we excluded from the sample the 15 women who

did not report the month and year in which they first became pregnant and the 778 women who had never had sexual intercourse. Once the 63 respondents with missing information were excluded, the final sample for this analysis consisted of 829 individuals.

Our analysis also had to be restricted to transitions to first intercourse and pregnancy occurring between 1978 and the 1984 interview, to assure that the youngest women in the sample women would still be adolescents at the time of a possible pregnancy. The association between employment and sexual behavior might have changed since 1984.

Measures

The key variables for our analysis are the month of first intercourse; the month of a first, nonmarital pregnancy; employment status; the number of hours worked in a given month; and the cumulative number of months employed.

The NLSY began asking respondents about the month in which they first had sex and first became pregnant in 1984. We used these responses to construct a variable indicating whether a young woman had had intercourse or had become pregnant in a given month, starting with January 1978.

Employment status and the number of hours worked during a given month, as well as cumulative months employed, were constructed from the weekly work history files. If a woman was employed for at least one week during a given month, we counted her as having been employed during that month. The numbers of hours worked during a month (intensity of employment) were coded as zero, 1–40, 41–80, 81–120 and more than 120 hours.

To assess the possible association between adolescent employment and risky behaviors, we created a variable indicating whether a young woman had ever used alcohol or any type of drug. This variable was based on the month and year of first reported drug or alcohol use.

The remaining control variables were derived from the literature on teenage reproductive behavior; some of these could change monthly or annually, while others were fixed. The variables that did not change over time were family background (number of years of mother's education, respondent's number of siblings and the number of years that she lived with both parents until she reached age 13); race or ethnicity (non-Hispanic black, Hispanic and white); religious identification (Catholic, Baptist, Protestant, Jewish/other and none); frequency of attendance at religious services (poor, occasional, moderate and frequent); the respondent's score on the Armed Forces Qualifying Test; and age at menarche.

We also controlled for occupational expectations to account for possible selection bias toward employment among young women with higher career expectations. This measure was constructed using two questions from the survey. The first question was "What would you like to be doing when you are 35 years old?" Possible responses were be at her present job, have some occupation, be married with a family and "other." The second question asked respondents who mentioned wanting to have an occupation to specify which one they would like to be working in at age 35, and to describe their expectations of achieving those aspirations (excellent, good, fair or poor). We used responses to these questions to construct a set of dummy variables that indicated the following categories of combined occupational goals and expectations of achieving those goals: professional or managerial aspirations with an excellent or good chance of achieving them, or with a fair or poor chance; other aspirations with an excellent or good chance of achievement, or with a fair or poor chance; and no occupational aspirations. This last category comprised women who indicated that they wanted to be married but not working at age 35, and those who answered "don't know."

Whether the respondent was enrolled in school was recorded monthly. Because the NLSY did not begin asking this question until 1980, however, we also included a variable indicating whether school enrollment data were missing.

The variables that could change annually were the respondent's age, her family poverty status and her family structure (i.e., whether she lived with both biological parents, with her mother only, with a stepparent or in another arrangement).

Methods of Analysis

We used Weibull hazard regression models to estimate the hazard of first sexual intercourse and, among sexually experienced adolescents, the hazard of a first, nonmarital pregnancy.* For the analysis of risk of first intercourse, the period of risk began in January 1978. A woman's exposure to risk ended if she had intercourse or married before age 20.† For the analysis of risk of first, nonmarital pregnancy, the period of risk began at the age of first sexual experience. Exposure ended with a first, nonmarital pregnancy before age 20 or with marriage before age 20.

Because we suspected that being employed and the cumulative number of months employed might be highly correlated, we began by estimating two models for each analysis—one incorporating cumulative employment and the other incorporating an indicator of employment in the current month.

In instances where the cumulative number of months employed was significantly associated with the dependent variable, we estimated an additional model that incorporated both employment variables simultaneously. We also extended the analysis by incorporating the intensity of current employment, replacing the dichotomous indicator of current employment with a set of categorical variables that quantified the hours worked during the month. Finally, we estimated all of the models for the entire sample, as well as for all three racial and ethnic groups.

*The following is the equation for the log-hazard: $\log h(t)=\alpha\log(t) + \beta_0 + \beta_1 x_1 + \ldots + \beta_k x_k$, where $h(t)$ is the hazard of the event and $x_1 \ldots x_k$ are covariates.

†We also estimated models for the hazard of first intercourse before age 18. The results (available from the authors) were very similar to those reported in this article.

TABLE 1. Hazard ratios from Weibull hazard regressions examining the effects of employment and selected control variables on the likelihood of experiencing first intercourse before age 20 among 14–16-year-olds in 1979 (N=1,685)

Variable	Employment measure		
	Cumulative mos.	Currently employed	Both
Cumulative mos. employed	1.01**	na	1.00
Currently employed	na	1.20**	1.14
In school	0.77**	0.78**	0.78**
Family structure			
Mother only	0.97	0.97	0.97
Stepparent	1.39**	1.39**	1.39**
Other	1.11	1.11	1.11
Both parents (ref)	1.00	1.00	1.00
Family poor	1.17†	1.17†	1.18†
Ever used drugs/alcohol	1.99**	2.01**	1.99**
Religious identification			
Catholic	0.77†	0.77†	0.77†
Baptist	0.89	0.88	0.89
Protestant	0.78	0.79†	0.79
Jewish/other	0.76†	0.75†	0.76†
None (ref)	1.00	1.00	1.00
Religious attendance			
Poor	1.45**	1.45**	1.46**
Occasional	1.45**	1.44*	1.44*
Moderate	1.19†	1.19†	1.19†
Frequent (ref)	1.00	1.00	1.00
Age at menarche	0.92**	0.92**	0.92**
Occupational aspirations/expectations			
Professional/≥good	1.12	1.12	1.12
Professional/≤fair	1.15	1.15	1.15
Nonprofessional/≥good	1.27*	1.26*	1.26*
Nonprofessional/≤fair	1.09	1.09	1.09
No expectations (ref)	1.00	1.00	1.00
Age			
13	0.22**	0.21**	0.22**
14	0.53**	0.51**	0.54**
15	1.09	1.03	1.10
16	1.31†	1.21	1.30†
17	1.54**	1.44**	1.52**
18	1.62**	1.56**	1.61**
19 (ref)	1.00	1.00	1.00
Log likelihood	*–1,712.7*	*–1,712.5*	*–1,711.4*
No. of person-mos.	*76,346*	*76,346*	*76,346*

*p≤.05 **p≤.01. †p≤.10. *Notes:* Variables not shown in the table had no significant or marginally significant effects in any model. na=not applicable. ref=reference group.

The results are presented as hazard ratios—that is, the exponentiated coefficients derived from Weibull hazard regression models. For continuous variables, the hazard ratios represent the percentage change in the hazard for each one-unit change in the continuous variable. For categorical variables, the omitted (reference) category of each variable is given a fixed value of 1.0; women in categories with values above 1.0 have a higher risk of experiencing the outcome of interest, and women in categories with values below 1.0 have a lower risk.

RESULTS

Hazard of First Intercourse

Results from the regression that controls for the cumulative number of months employed suggest that every month of previous employment increases the hazard of first intercourse by 1% (hazard ratio, 1.01—Table 1). Thus, there is no support for the hypothesis that young women with high aspirations are both more likely to work and more likely to avoid risking a nonmarital pregnancy. If differential selection into employment is a factor, then it works in the other direction; that is, young women who desire greater independence from their parents, or who want to assume adult roles early on, may be both more likely to work and more likely to engage in early intercourse.

This result is also consistent with the hypothesis that adolescent employment interferes with the ability of parents to monitor their children or that it diminishes parent-child interaction, so the more an adolescent works, the greater the expected negative impact on her parents' ability to monitor her. Working more might also increase a young woman's independence from her parents and encourage her to engage in adult behaviors, including sexual activity.

According to the results of the second model, employment in the current month alone also has a strong association with sexual behavior: The hazard of experiencing first intercourse before age 20 is 20% higher among young women who are currently employed than among those who are not (hazard ratio, 1.2). Part of this effect, however, may be caused by the probable scenario that young women who have worked more in the past are also more likely to be working currently.

In the analysis that controls simultaneously for cumulative months of employment and current employment, the hazard ratios for both measures of employment are reduced and lose statistical significance. This finding suggests that, as expected, current and past employment are highly correlated, which makes drawing conclusions about the independent effect of these variables difficult.

The effects of the control variables shown in the rest of the table are generally as expected. Young women who report any previous alcohol or drug use have a significantly elevated risk of initiating intercourse (hazard ratio, 2.0 in each regression). On the other hand, identifying with a specific religion is suggestive of a reduced risk of first intercourse. For example, Catholic and Jewish young women appear to be less likely than those with no religious affiliation to have initiated intercourse, but this association is only marginally significant. In addition, young women who do not attend religious services, or who attend occasionally, are significantly more likely to have initiated intercourse than those who attend services frequently, while moderate attendance is marginally associated with an increased risk of sexual initiation. Finally, the risk of having initiated sexual experience is significantly lower among those who start menstruating at later ages, and the data are suggestive (i.e., they reach only marginal significance) of a greater likelihood of initiating intercourse among young women from poor families. Young women's race or ethnicity is not related to their likelihood of beginning intercourse (not shown).

The impact of family structure, occupational expectations and age differs somewhat from what we had anticipated. The only family structure that independently increases the hazard of early first intercourse is living with a

stepparent (hazard ratio, 1.4 in each regression). In addition, young women who believe they have good to excellent chances of achieving a nonprofessional position are more likely than those with no occupational aspirations to become sexually experienced in their teenage years (1.3). Also, 17- and 18-year-olds are significantly more likely than 19-year-olds to experience first sex before age 20 (1.4–1.6).

We estimated the same models for the three racial and ethnic groups. Among Hispanics, neither cumulative nor current employment is significantly associated with the risk of having a first sexual experience. Among white young women, however, the model that controls for the effect of cumulative months of employment alone yields the same result (hazard ratio, 1.01—Table 2) as for the sample as a whole. Moreover, when current employment is entered alone into the model, its effect is also about the same among whites as it is among the entire sample (1.2). However, when both employment variables are controlled for simultaneously, the effect of cumulative employment is marginally significant among white women, while it fails to attain even marginal significance among the entire sample. On the other hand, as in the analyses for the entire sample, controlling for both employment variables reduces the effect of current employment and renders the association nonsignificant.

In the analysis for black women, cumulative employment has no significant effect on the likelihood of initiating sexual intercourse. Being currently employed likewise has no effect, although this association approaches statistical significance, and its magnitude is greater among blacks (1.3) than among whites or the entire sample. However, in the fully adjusted model, the effect of current employment is reduced and becomes nonsignificant.

Overall, the results suggest that both cumulative and current employment are related to the likelihood that a young woman will become sexually active during adolescence. However, we are unable to determine what explains this relationship—i.e., whether greater amounts of employment lead to increased independence from parents and to a greater propensity to engage in adult behaviors, or if adolescents who seek independence from their parents do so both by taking on more employment and by engaging in adult behaviors.

TABLE 2. Hazard ratios from Weibull hazard regressions examining the effects of employment and selected control variables on the likelihood of experiencing first intercourse before age 20, by race

Race and measure	Employment measure		
	Cumulative mos.	Currently employed	Both
White (N=922)			
Cumulative mos. employed	1.01**	na	1.01†
Currently employed	na	1.24*	1.15
Log likelihood	*–935.2*	*–935.7*	*–934.4*
No. of person-mos.	*42,107*	*42,107*	*42,107*
Black (N=436)			
Cumulative mos. employed	1.01	na	1.01
Currently employed	na	1.31†	1.24
Log likelihood	*–442.8*	*–442.3*	*–442.0*
No. of person-mos.	*18,859*	*18,859*	*18,859*

*p≤.05. **p≤.01. †p≤.10. *Note:* na=not applicable.

TABLE 3. Hazard ratios from Weibull hazard regressions examining the effects of intensity of current employment and cumulative employment on the likelihood of experiencing first intercourse before age 20, all women and white women

Variable	Employment measure	
	Intensity	Intensity and cumulative mos.
All		
Intensity of current employment (hrs./mo.)		
0 (ref)	1.00	1.00
1–40	0.96	0.92
41–80	1.07	1.03
81–120	1.12	1.08
>120	1.43**	1.36**
Cumulative mos. employed	na	1.01
Log likelihood	*–1,708.3*	*–1,707.5*
No. of person-mos.	*76,346*	*76,346*
Whites		
Intensity of current employment (hrs./mo.)		
0 (ref)	1.00	1.00
1–40	0.88	0.83
41–80	1.08	1.02
81–120	1.14	1.08
>120	1.58**	1.48**
Cumulative mos. employed	na	1.01
Log likelihood	*–930.0*	*–929.0*
No. of person-mos.	*42,107*	*42,107*

**p≤.01. *Notes:* Blacks and Hispanics are excluded because no employment effects were significant. na=not applicable. ref=reference group.

Effect of Intensity of Employment

The negative impacts of work appear to be concentrated among young women who work the greatest number of hours per month, since only working more than 120 hours a month (or more than 30 hours per week)* significantly increases the likelihood of intercourse (hazard ratio, 1.4—Table 3); this finding was unaffected by the addition into the model of cumulative employment. Moreover, in that model, the hazard describing the effect of cumulative employment is similar to that obtained earlier, but is no longer significant.

Controlling for the cumulative months of employment might not sufficiently account for the intensity of employment in the past. To address this problem, we also estimated a model that controls for the cumulative number of hours worked (not shown); that variable, however, also has no independent effect on the likelihood of first intercourse. Moreover, working more than 120 hours a month continues to exert a highly significant effect, and the magnitude of the hazard ratio describing that effect is the same as that obtained in the model controlling for the cumulative number of months employed. Thus, the number of hours of current employment appears to be more important than the number of hours worked in the past.

We also examined the effect of the number of hours currently worked per month on the hazard of first intercourse

*The proportion of young women in this category ranged from less than 1% among 13–14-year-olds to 28% among 19-year-olds.

TABLE 4. Hazard ratios from Weibull hazard regressions examining the effects of employment and selected control variables on the likelihood of a nonmarital pregnancy among sexually experienced young women (N=829)

Variable	Employment measure	
	Cumulative mos.	Currently employed
Cumulative mos. employed	1.00	na
Currently employed	na	1.05
In school	0.78†	0.79†
Mother's education	0.94**	0.94**
Family structure		
Mother only	1.23	1.24
Stepparent	1.38	1.39
Other	1.42†	1.43*
Both parents (ref)	1.00	1.00
Family poor	1.62**	1.62†
Race/ethnicity		
Black	1.38†	1.37†
Hispanic	1.71**	1.70**
White (ref)	1.00	1.00
Log likelihood	*–697.0*	*–697.8*
No. of person-mos.	*19,898*	*19,898*

*p≤.05. **p≤.01. †p≤.10. *Notes:* na=not applicable. ref=reference group.

among women of each race. For black women, the effect of working more than 120 hours per month is not significant (p=.11). Among whites, however, the results reveal a strong relationship between working the highest number of hours and the risk of first intercourse: Currently employed young white women who work more than 120 hours a month have a nearly 60% higher risk than similar unemployed women of experiencing first intercourse (Table 3). In addition, even when the cumulative number of months employed is taken into account, young white women who work more than 120 hours per month are significantly more likely than nonworking white women to have sex for the first time during adolescence (1.5). We obtained similar results when we controlled for the cumulative number of hours, as opposed to months, of employment (not shown).

Hazard of Pregnancy

Overall, neither cumulative nor current employment significantly affects the likelihood of a first, nonmarital pregnancy among sexually experienced young women (Table 4).* This finding suggests that the negative impact of adolescent employment might operate primarily by reducing parental influence, which, in turn, raises the likelihood of intercourse; once young women make this transition, however, employment has no effect on the likelihood of contraceptive use. Alternatively, young women who desire more independence from their parents or who wish to assume adult roles—and who therefore work more and are more likely to engage in sexual activity—are neither more nor less likely than others to use contraceptives once they become sexually active.

The effects of many of the control variables on the likelihood of an adolescent nonmarital pregnancy are generally in line with our expectations and with results obtained by others. Increasing maternal education lowers the likelihood of an early, nonmarital pregnancy (hazard ratio, 0.9). Hispanic young women and those from poor families have a significantly elevated risk of an early, nonmarital pregnancy, although the finding regarding family poverty is only marginally significant in the model that controls for current employment. In both models, blacks have only a marginally significant increased risk, and enrolled students have only a marginally significant decreased risk, of becoming pregnant before age 20. Moreover, the family structure variable "other" living arrangement is significantly associated with an increased risk of pregnancy in the regression that controls for current employment, but the association is only marginally significant when cumulative months employed is controlled for.

Finally, we estimated five models for the risk of a first, nonmarital pregnancy that control for different combinations of employment measures (Table 5). We ran these five models for each racial and ethnic group. None of the results are statistically significant for white women, while the results for black and Hispanic women are mixed.

Among black young women, the models that control for cumulative months of employment and current employment separately show that each of these variables significantly increases the hazard of a nonmarital pregnancy (hazard ratios, 1.04 and 2.20, respectively). However, controlling for both of these variables simultaneously renders the effect of cumulative employment nonsignificant and reduces the effect of current employment somewhat (to 1.8).

The results of the model controlling for the intensity of current work alone suggest that almost any amount of employment is associated with an increased risk of pregnancy (although working up to 40 hours or more than 120 hours is only marginally significant). Unexpectedly, the hazard ratio for working more than 120 hours a month is lower than those for working fewer hours. Further, adding into the model the cumulative number of months employed lowers the hazards for all categories of intensity; only currently working 81–120 hours a month retains significance, and working 41–80 hours is only marginally significant.

Overall, these results support the notion that some young black women may seek adult status by both working and bearing children. However, this interpretation would also suggest a positive relationship between being employed and the risk of first intercourse, but we found no such relationship among black women.

The same five models for Hispanic young women generated very different results. For example, the cumulative number of months employed alone has no significant effect on the likelihood of a nonmarital pregnancy among young Hispanic women. However, in models that considered the effect of current employment either alone or with controls for cumulative employment, Hispanic adolescents who currently work have only one-half the pregnancy risk of those who do not (hazard ratios, 0.5 for each).

Because the number of person-months in the category

*We obtained similar results when we included those who had never had sex.

TABLE 5. Hazard ratios from Weibull hazard regressions examining the effects of various employment measures on the likelihood of a nonmarital pregnancy among sexually experienced black and Hispanic young women

Variable	Employment measure				
	Cumulative mos.	Currently employed	Intensity	Cumulative mos. and currently employed	Cumulative mos. and intensity
Blacks (N=227)					
Cumulative mos. employed	1.04**	na	na	1.03	1.03†
Currently employed	na	2.20**	na	1.83*	na
Intensity of current employment (hrs./mo.)					
0 (ref)	na	na	1.00	na	1.00
1–40	na	na	2.73†	na	2.20
41–80	na	na	2.65*	na	2.18†
81–120	na	na	2.70**	na	2.29*
>120	na	na	1.73†	na	1.40
Log likelihood	*–187.4*	*–186.6*	*–185.8*	*–184.8*	*–183.9*
No. of person-mos.	*5,457*	*5,457*	*5,457*	*5,457*	*5,457*
Hispanics (N=108)					
Cumulative mos. employed	0.98	na	na	0.99	0.99
Currently employed	na	0.48*	na	0.52*	na
Intensity of current employment (hrs./mo.)					
0 (ref)	na	na	1.00	na	1.00
1–80	na	na	0.29*	na	0.31†
81–120	na	na	1.23	na	1.28
>120	na	na	0.38**	na	0.41**
Log likelihood	*–107.4*	*–105.9*	*–103.5*	*–105.7*	*–103.4*
No. of person-mos.	*2,618*	*2,618*	*2,618*	*2,618*	*2,618*

*p≤.05. **p≤.01. †p≤.10. *Notes:* na=not applicable. ref=reference group.

1–40 hours was small, we created a combined category of 1–80 hours for Hispanic women. Unexpectedly, we found that the effects of currently working are concentrated both among young women who work 80 or fewer hours a month and among those who work more than 120 hours a month. Although controlling for the cumulative number of months employed does not alter the significance of findings for working the highest number of hours, the hazard ratio associated with working 1–80 hours a month becomes only marginally significant.

If cultural norms suggesting that adult Hispanic women are not expected to work to the same extent as other women are true, young Hispanic women who choose to work might have especially high career aspirations. As a result, they may also be more likely to avoid risking a nonmarital pregnancy. Under this interpretation, however, work might be expected to have a negative impact on the risk of first intercourse, but we found no such effect. In addition, if young working Hispanic women have very high aspirations, those who become pregnant might be less likely than others to report it. Some of the negative effect may thus be caused by an underreporting bias.

DISCUSSION

We found that among white young women in particular, both current and cumulative work are associated with an increased risk of first intercourse. Because these variables are highly correlated, however, we could not isolate their independent effects. After accounting for past employment, we also found that young women who are currently working more than 120 hours a month are significantly more likely than nonworking women to experience first intercourse. Again, this was particularly true for white women.

Our analysis was unable to distinguish between two possible explanations for these relationships, however. More employment might lead to greater autonomy from parents and increase the likelihood that young women will engage in risky behaviors. Alternatively, young women who seek to establish independence from their parents might be more likely to work in the first place. In addition, both explanations could hold: Employment might both attract young women seeking autonomy and increase their autonomy over time. Also, other studies that have sought to isolate a causal relationship between adolescent employment and problem behaviors have found that although controlling for the existence of such behaviors before entry into employment reduced their negative effects, the effects remained statistically significant.[18]

We did not find any evidence that working affects the risk of nonmarital pregnancy among young white women. However, working during adolescence appears to be associated with an increased risk of pregnancy among blacks and with a reduced risk among Hispanics. Given that employment does not affect the risk of intercourse among these two subgroups, it is unclear how these results should be interpreted. In addition, the results may be biased by minority groups' general tendency to underreport pregnancies.

Overall, our findings add to a growing literature that indicates possible short-term detrimental effects of adolescent employment, particularly working a very high number of hours. Increased sexual activity associated with employment is a concern to the extent that such activity increases the proportion of young women who are exposed to the risk of nonmarital pregnancy and childbirth. Policymakers and program planners seeking to design and implement interventions to reduce the risk of teenage preg-

nancy should be aware of these potential effects. In particular, when interventions include the provision of employment opportunities, program planners may want to restrict such opportunities to selected employment settings.

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Coming Up in *Perspectives*

"Is Lack of Sexual Assertiveness Among Adolescent and Young Adult Women a Cause for Concern?" is the question posed by Vaughn I. Rickert, Rupal Sanghvi and Constance M. Wiemann. Their answer, and a related viewpoint by Patricia East, will appear in the next issue of *Perspectives on Sexual and Reproductive Health.*

Also coming up in the July/August issue:

- "The Transition of Adolescent Males to First Sexual Intercourse: Anticipated or Delayed?" by Renata Forste and David W. Haas
- "Factors Affecting British Teenagers' Contraceptive Use at First Intercourse: The Importance of Partner Communication" by Nicole Stone and Roger Ingham
- "Consequences for Infants of Parental Disagreement in Pregnancy Intention" by Sanders Korenman, Robert Kaestner and Ted Joyce
- "The Extent of Pregnancy Mistiming and Its Association with Maternal Characteristics and Behaviors and Pregnancy Outcomes" by LeaVonne Pulley, Lorraine V. Klerman, Hao Tang and Beth A. Baker