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Wages of Virtue: The Relative Pay of Care Work

Paula England
Northwestern University

Michelle Budig
University of Massachusetts-Amherst

Nancy Folbre
University of Massachusetts-Amherst

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This research was funded in part by a MacArthur Foundation grant to the Network on the Family and the Economy. Direct correspondenceto Paula England, Department of Sociology, Northwestern University, 1810 Chicago Avenue, Evanston, IL 60208-1330. **p-england@northwestern.edu**

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Abstract

We examine the relative pay of occupations involving care, such as teaching, counseling, providing health services, or supervising children. We use panel data from the National Longitudinal Survey of Youth. Care work pays less than other occupations, after controlling for the education and employment experience of the workers, many job characteristics, and (via individual fixed effects) unmeasured, stable characteristics of those who hold the jobs. Both men and women in care work pay this wage penalty. However, the penalty is paid disproportionately by women since more women than men do this kind of work.

Wages of Virtue:

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As you read this, parents around the world comfort crying children. Teachers instruct children in reading. Child care workers exhort children to get along with each other. Aides in a nursing home give elders their medication. Counselors work with men who batter women to reduce their violent reactions. Professors give lectures. Librarians show students how to find journal articles on the web. Mid-wives deliver babies. Doctors and nurses scramble to give emergency care to accident victims. A young mother at home prepares lunch for her two children as well as three she takes in for pay. All these activities involve care work.

We use the term "care work" (or caring labor) to refer to work that provides a face-to-face service that develops the capabilities of the recipient. By "human capabilities" we refer to health, skills, or proclivities that are useful to oneself or others. These include physical and mental health, physical skills, cognitive skills, and emotional skills, such as self-discipline, empathy, and care. Examples of caring labor include the unpaid work of parents, and the paid work of teachers, nurses, child care workers, and therapists.

This paper provides empirical evidence that those who do paid caring labor face a wage penalty. That is, many occupations involving caring labor pay less than would be predicted from the education and experience of their incumbents, and from the demands of the jobs themselves. We also offer theoretical explanations of this penalty.

THE LOW PAY OF CARING LABOR: PAST RESEARCH AND THEORY

In this section, we review past research on pay in care work and develop theoretical arguments about why we might expect paid caring labor to pay badly.

Past Research on the Wage Penalty for Caring Labor. A number of studies have looked at the effect on pay of working in caring labor, net of other individual and job-

level determinants of pay. These studies control for factors such as education, experience, cognitive and physical skill demands of the job, whether wages are set by unions, whether the job is in the public sector, and the sex composition of the occupation. England (1992, Ch. 3) created a dummy variable for what she called "nurturant work," by making a judgement from each detailed Census occupational title regarding whether a primary task in the job is giving a face-to-face service to clients or customers of the organization for which one works. This is broader than the operationalization of care work we will use here, largely in its inclusion of kinds of face-to-face service such as sales work that are unlikely to increase recipients' capabilities. The study used 1980 Census data and found that both men and women earned less if they worked in a caring occupation (England 1992, Ch. 3); a replication using 1990 Census data found a penalty as well (England, Thompson, and Aman 2001). England et al. (1994) used another measure of caring labor constructed from a survey of undergraduates asking them to rank Census occupational titles according to "how much they involve helping people, encouraging the development of people, or taking care of people." They found that, in 1980, occupations ranked higher on this scale had lower earnings. Kilbourne et al. (1994) developed a scale to measure nurturant skill from the dummy variable developed by England (1992, Ch. 3) described above, plus other measures from the Dictionary of Occupational Titles involving dealing with people and communication. Other things equal, working in an occupation scoring higher on this scale reduced earnings for both men and women. In an analysis of the New York State civil service jobs, Steinberg et al. (1986) found that a number of scales that tapped caring social skills had negative returns. These included communication with the public and group facilitation, both of which relate to caring work (Steinberg et al. 1986:152).

Why does caring labor pay badly? We suggest several explanations.

The Economic Dependence of Those Who Need Care. Often people who need care have very little money to pay for it. Children are the extreme example. If adult

behavior were well explained by the most caricatured version of theories of self-interested rational actors, then infants would only get cared for if they could offer something for their care. Clearly, most of them would die since they have few resources (save cuteness) at birth, and their cognitive skills are hardly up to negotiating a long term contract that lets them borrow against their future earnings. Even if they were great negotiators, they would face the problem that the only thing they "own" that could provide collateral for the loan is their person. But no contemporary legal system allows contracts specifying that if one party doesn't pay s/he will become an indentured servant or a slave. The seeming absurdity of this line of reasoning makes the general point that we need care most when we are the least able to pay for it or produce something we could exchange for money to pay for it. This is part of what we mean when we talk about the inherent "dependency" of childhood, old age, illness, and poverty.

When those with few resources need care, and the care is provided by paid workers, then some third party pays for the care, typically family members[1] or the state. In this case, how much is available to pay the care workers depends upon how affluent the family members are, or how rich the economy is from which the state draws taxes. But the level of resources also depends upon the level of altruism of the members of the family or polity. In the case of state action in a democracy, citizens have to vote to tax themselves to pay those who give care to people who need it. So the taxation for care involves a redistribution from tax payers to those receiving care. For example, if people have little altruism for children other than their own, citizens will be less willing to tax themselves to pay for universal child care or for family allowances. State resources available to pay for care also hinge on social norms regarding who is entitled to care and whether family members are obligated to

[1] In the case of health care, payment is often through insurance that a family member has as part of the compensation from their employer.

provide it without pay or state support. All these things make it unclear resources will be forthcoming to pay care workers as much as others who do work requiring a similar amount of skill.

The Association of Care with Women and Mothering. Paid care work often involves the provision of services that women are expected to offer to their family members out of love and obligation, such as taking care of children and nursing sick family members. Indeed, paid care work consists of those functions of care for dependents historically done by women in the family. With social differentiation, these functions are done less in the family and more in state- and market-governed institutions. The way we think about this work is strongly affected by schemas about gender and motherhood that come from our own early relationships with our mothers or other care givers and from the larger culture.

There are two reasons that such associations may make us less likely to see good pay as appropriate for care work. First, such work is usually done by women. The "devaluation thesis" asserts that our culture devalues women relative to men, and in something akin to guilt by association, any activity done largely by women is valued less than that it otherwise would be. Consistent with this claim, most research examining whether wage systems violate the principle of "comparable worth" shows that the sex composition of jobs (or occupations) affects their wages, net of a host of controls (Steinberg et al. 1986; Acker 1989; Sorensen 1989; Baron and Newman 1989; England 1992; Kilbourne et al. 1994; Macpherson and Hirsch 1995; England et al. 1988, 1996, 2000, forthcoming; Parcel 1989; but see Filer 1989; Tam 1997, 2000).

But the low pay of caring labor is not just because these jobs are predominantly female. We know this because a number of prior studies (reviewed above) as well as the analysis we provide here show a pay penalty for care work even controlling for sex composition. That is, on average, jobs involving care pay less than other women's jobs of similar skill levels that do not involve care. This may be because care is symbolically

associated with women and mothering *more* than other "female" jobs, and this association may affect our sense of how much it should be paid. So, for example, we may associate counseling with the nurturing functions of mothers, and see the qualities of empathy and patience it requires as more "natural" than arduously acquired, compared to the skill required in an equally female-intensive administrative job. Or nurturing skills may simply go unnoticed.

The resistance to higher pay for caring labor may also involve an interplay of cultural meanings with our intra-psychic desires to have unconditional "mother love" available to us whenever we feel vulnerable, but to also be able to deny our dependency on this. Perhaps we resist the idea of paying care well because a world in which those who do caring labor can demand good pay threatens our sense that care will be freely available to us when we need it. We may fear that commodifying care dries up real love, or worse, makes the sacred profane. Much of this may be unconscious. The discourage that develops out of this fear sounds as if its concern is to maintain the respect for the sanctity of care work, even to put care workers on a pedestal of respect. But, ironically, one result is to deny decent income to those who provide care (Nelson 1993; Folbre and Nelson 2000; England and Folbre 1999).

The Difficulty in Achieving Productivity Gains in the Care Sector. Another factor constraining pay for care work was hinted at by economist William Baumol (1967) when he referred to the "cost disease of the service sector." He argued that the service sector of the economy is less amenable to productivity-enhancing technical change than manufacturing. It is, after all, harder to substitute capital for labor in the classroom than on the assembly line. Therefore, he predicted that consumers would face rising costs of services relative to physical goods. In retrospect, Baumol was wrong to lump all services together. Retail, banking, and insurance services have benefitted enormously from innovations in information technology, leading to significant capital/labor increases and increases in productivity per worker. Care services, however, are inherently labor intensive:

they require face-to-face, and sometimes hands-on, contact. Thus, in order to compete for equally skilled workers, paying them the same relative to their skill level as other sectors pay, the relative cost to consumers of care services would have to rise. But, no matter how great the need for care services, those in need may not be able to pay the rising costs required for skill-commensurate pay in the care sector. If someone else is not able and willing to foot the bill, then either recipients will go without care that could have been afforded when relative prices for care were lower, and/or care workers will be pressured to work for a low wage relative to their human capital and the skill level of their jobs. This may help explain the low relative wages of care work.

The Neoclassical Economic Notion of Compensating Differentials. When neoclassical economists confront evidence of the penalty for caring labor, they generally suggest that the correct explanation lies in the theory of compensating differentials (Filer 1989). (See England 1992:69-73 for a critical exposition of this view.) This theory calls attention to differences between jobs in their intrinsic rewards or penalties. Nonpecuniary "amenities" or "disamenities" will affect how many people are willing to work in a job at any given wage. Thus, according to the theory, employers will have to pay more to compensate for nonpecuniary disamenities of jobs, and they can hire for less in jobs with nonpecuniary amenities, all else equal. Of course, there is variation in tastes among workers; the theory says that whether the intrinsic properties of the work will require the employer to pay a higher wage or permit a lower wage depends upon whether the marginal worker sees the characteristics of the job as more amenity or disamenity. In this view, if the marginal worker to caring occupations finds satisfaction in helping people, this will allow employers to fill the jobs with lower pay than in comparable jobs without the helping component. More simply put, the low pay may be made up for by the intrinsic fulfillment of the jobs; altruism is its own reward.

We have no argument with the notion that caring labor is sometimes motivated by

altruism. This may be a factor in the low pay of caring labor, but we doubt it is the whole story. Every job disproportionately self-selects workers who find the kind of work offered to be interesting, fulfilling, enjoyable, or less onerous. Most jobs are intrinsically rewarding to *some* people. Caring labor appeals to those who want to relieve human suffering and enjoy seeing people develop, science is full of nerds who like studying and discovery, managers enjoy control, and race car drivers are turned on by the danger most of us avoid. Thus, the simple fact that we can point to one set of preferences (altruism) that favor choosing caring labor does not mean all of the pay penalty we observe for working in this kind of work is explained by such preferences. The disproportionate tendency to invoke such explanations for work that historically emanates from women's work at home may reflect the gendered biases discussed above.

DATA AND METHODS

Sources of Data. To examine the relative pay of caring labor, we pooled the 1982-1993 waves of the NLSY (National Longitudinal Survey of Youth), a national probability sample of individuals aged 14-21 in 1979, with oversampling for Blacks and Latinos. Respondents were interviewed annually. We limit the sample to those employed part- or full-time during at least two of the years 1982-1993, since the fixed-effect models we will employ require at least two observations on each person. Out of the total of 12,686 respondents in the 1979 NLSY, we had at least two years of employment for 10,670 (5,291women and 5,379 men). After deletions for person-years with missing values on one or more variables, our analyses were based on 85,880 person-years as units of analyses, which was an average of 8 years (waves) of data for each of the 10,670 respondents.

Since respondents were 14-21 years of age in 1979, the oldest of them were 35 in 1993, the last year in our data. The age restriction of the sample is a limitation of using these data; we are seeing only early careers. The advantage of using these data is their panel nature

which allows the use of the fixed-effect model, described below, which increases our ability to minimize omitted-variable bias. The implications of the youth of the sample are that, if care work has steeper raises with experience than other jobs, then our estimate of the pay penalty for care work is probably too high for the labor force as a whole. If care work has less steep returns to experience, our estimates of the penalty are too low. We suspect the latter to be more likely, but have no evidence on this. Another limitation of the data set is that it under-represents immigrants in later years; immigration has increased dramatically since 1980, but individuals had to be in the country by 1979 to be in the sample. Particularly relevant to our focus on care work is the fact that, especially in the Southwest, maids and live-in nannies are disproportionately Latina immigrants (Romero 1992).

We calculated the percent female in each detailed occupation/industry combination from 1990 Census data (U.S. Bureau of Census 1993). NLSY responses to questions about jobs were coded into 1980 occupation and industry codes starting in 1982, and these codes were easily mapped onto 1990 occupation and industry codes. Since pre-1982 occupations and industries are coded into 1970 codes, which do not easily map onto 1990 codes, we limited our sample to person-years after 1982.

The Dictionary of Occupational Titles (U.S. Department of Labor 1977) contains data on over 10,000 occupations. Department of Labor observers coded occupations for their skill demands and other characteristics of the work. DOT variables were transformed into averages for each 1980 detailed Census occupation (England 1992, Ch. 3). They were merged onto our data according to Census occupation codes.

Description of Variables. The dependent variable is the natural log of hourly wage in the respondent's current job. We dropped person-years where hourly wages are outliers below $1.00 or above $75.00.

The principal independent variable is a dummy variable indicating whether the occupation meets our operational definition of caring labor: it entails giving a face-to-face

service to a client or customer of the organization one works for, and it increases the capabilities of this recipient. Coding was done by the first author. We considered occupations to be care work if they involve the face-to-face provision of child care, health care, or education, and we included helping professions such as therapists, social workers, and clergy. These occupations involve providing a face-to-face service, and develop human capabilities such as physical and psychological health or cognitive and social skills. Appendix Table A-1 provides a list of all occupations coded as care work. We also estimate models that include dummy variables for broad sub-types of caring labor, also listed in Table A-1. Finally, in sensitivity tests, we try a broader definition, interactive service work, which also includes service jobs such as retail sales and receptionist (see Table A-2 for a list of these occupations).

Following standard practice, our models control for education and job experience. We include measures of education, years of full-time and part-time experience, and years of full-time and part-time seniority (i.e., experience in the organization for which one currently works). These measures include the entire life cycle back to 1978. Experience includes seniority in one's present workplace. Finally, the total number of breaks in employment is included to capture the possibility that, for example, ten years of continuous experience may help earnings more than 10 years of experience accrued across 15 years with several breaks in between. A break is defined as time out of employment lasting longer than 6 weeks since one's first full-time job of at least 6 weeks in duration.

We include a number of job characteristics. These are intended to control for the skill demands of occupations, as well as their nonpecuniary amenities and disamenities, and any other job characteristic that might affect wages. A dummy variable is included for whether the respondent's current job is part-time, defined as less than 35 hours per week. (In results not shown we substituted hours per week and its square for the part-time

dummy, and it changed other coefficients only trivially.) Union status is a dummy variable for whether the respondent reported that wages in his or her job were set by collective bargaining. We include a dummy variable for working in the public sector (local, state, or federal government), as well as a dummy for whether the individual is self-employed. Authority is a dummy variable giving a score of 1 to all Census detailed occupational categories with titles containing the words "management," "supervisor," or "foreman" (England 1992:137-139).

We measure the cognitive skill demanded by an occupation with a scale created by England (1992:134-135). It was created from a factor analysis of numerous items, mostly from the Dictionary of Occupational Titles. The score is merged onto NLSY respondents' records according to their detailed (1990) Census occupational category. Measures of the physical strength demanded and the physical hazards associated with one's occupation are occupational averages of variables taken from the Dictionary of Occupational Titles, merged onto these data according to NLSY respondents' detailed occupation.

The percent female in respondents' job in 1990 is calculated from 1990 Census data described above. It is the percent female of the persons employed in a cell of a matrix cross-classifying detailed 1990 3-digit occupational category with detailed 3-digit industry category. We also included 12 dummy variables to represent industry.

Statistical Model. We use fixed-effects regression models to analyze NLSY data arranged in a pooled time-series cross-section with person-year as units of analysis. Effects are fixed for years and persons. Person fixed-effects are useful for eliminating omitted-variable bias created by the failure to include controls for unmeasured, unchanging personal characteristics that have additive effects. For example, if people in care work were lower, on average, on some form of unmeasured human capital, this would be controlled, because, in effect, the models enter a dummy variable for each person, so they control for additive

effects of all unchanging characteristics of the person, even those that are unmeasured. The model is:

$$Y_{it} = b_0 + \Sigma\, b_k X_{kit} + e_{it},$$

where $$e_{it} = u_i + v_t + w_{it}.$$

Regression coefficients are denoted by *b*, k indexes measured independent variables (*X*s), *i* indexes individuals, *t* indexes time periods, *e* is error term, *u* is the cross-sectional (individual) component of error, *v* is time-wise component of error, *w* is the purely random component of error, and b_0 is the intercept. The dependent variable, *Y*, is the natural logarithm of hourly earnings.

For all models, the Hausman test was conducted to assess whether random effects models were adequate. In each case, the test indicated a need for fixed-effects. As part of our sensitivity tests, we present results from some ordinary least squares (OLS) regression models to allow comparison; since they presumably contain more omitted-variable bias, the comparison provides some insight into whether those in caring labor have lower earning-potential based on their unobserved characteristics. Since the multiple observations on each individual are not independent, we use the Huber-White method to correct the standard errors in the OLS models. This correction only changed standard errors trivially. We place more confidence in fixed-effects models for causal inference. Following Winship and Radbill (1994), we weight means and standard deviations by sampling weights provided in the NLSY, but do not weight regressions.

FINDINGS

The empirical analysis is designed to examine the relative pay of occupations involving care. Our interest is not in the absolute pay level of these occupations, which are quite diverse in educational requirements and on many characteristics that past stratification research has shown us to predict earnings. Rather, we want to know how caring labor pays relative to its

predicted pay level on the basis of its other characteristics. Means and standard deviations of major variables are presented in Table 1.

Table 2 shows the proportion of men and women of each of the three largest U.S. ethnic groups who work in occupations defined here as care work. While ethnic differences in occupation are large along many dimensions, Table 2 makes clear that this is not true for whether or not a person does care work. Here the large differences are by gender, not race or ethnicity. Between 12-14% of women in each of the three ethnic groups are in care occupations, whereas care work employs only 2-3% of the men in each ethnic group. It is possible that this conclusion would be changed if immigrants were not under-represented in the NLSY data. And it is important to note that there are some racial/ethnic differences in which care occupations individuals are concentrated in, as well as in wages within occupations. The regression analysis to follow will divide the sample by sex, with race/ethnicity controlled in the person-fixed-effect.

Effects of Control Variables. The wage penalty for caring labor was estimated controlling for other factors affecting individuals' pay, most of which have effects consistent with past research. Table 3 shows that individuals earn more as they increase their years of education, full-time experience, or full-time seniority. Part-time experience and seniority have some payoff to women, though not to men. Individuals who have taken more breaks from employment have lower wages, even when we hold constant experience and seniority, and working part-time reduces hourly pay. Effects of most job characteristics are also consistent with past research. There is a penalty for working in a job (occupation by industry cell) containing a higher proportion of women, and there are wage premia for working in jobs that are unionized, involve authority, or require more cognitive skill. Requirements for physical strength or hazards do not uniformly have the positive effects on wages that we might expect from the theory of compensating differentials.

The Pay Penalty for Care Work. Table 3 shows results from the regression analysis designed to isolate net effects on wages of working in caring labor. We see that working in a caring occupation leads to a significant net wage penalty of 5% for men and 10% for women. The difference between the male and female coefficients is statistically significant. We have no explanation about why the penalty, in percentage terms, is greater for women or, to put it another way, why the reward for working in non-care work is greater for women, in percentage terms.[2]

Sensitivity Tests for Robustness of Finding a Penalty for Care Work. We undertook additional analyses to see whether the finding that there is a penalty for caring labor is robust, and to provide additional insights about this kind of work. These are presented in Tables 4 and 5. In Table 4 we first examine the care penalty when we omit controls for industry dummies. Our presumption is that care work is concentrated in low paying industries, and thus that the estimated would be even larger if we include in it the portion attributable to the disproportionate location of caring occupations in lower paid industries. This is borne out for women only (the penalty goes from 10% to 12%). Similarly, we know that occupations involving caring labor are disproportionately female, and that the sex composition of occupations has an effect on their wages. Thus, we would expect that the penalty would be larger if it was estimated so as to include the portion attributable to the fact that caring labor usually is done in occupations with a high percent female, and we find this for both sexes (the penalty is 12% rather than 10% for women and 8% rather than 5% for men when sex composition is excluded from the models).[3]

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[2] Tests showed no within-sex interactions between doing care work and race/ethnicity.

[3]In a debate about the existence of a wage penalty for working in more heavily female occupations, Tam (1997, 2000) argued against using many job variables, particularly in fixed-

Next, Table 4 presents the penalty using OLS rather than fixed-effects. In fixed-effects models, coefficients are driven entirely by changes in wage when an individual moves into or out of occupations involving caring labor, above and beyond what can be explained by simultaneous changes in other measured independent variables. By contrast, OLS coefficients are also affected by cross-sectional comparisons between people, and thus by unmeasured differences between the individuals who are selected into or select caring and other occupations. If caring occupations select individuals with unmeasured characteristics causing lower earnings (e.g. because they have low skill, are victims of discrimination, or prioritize values other than money when selecting their job), then we would expect the OLS coefficient on the caring labor dummy to be a larger negative number than the fixed-effects coefficient. This is true for both sexes, but the difference between the fixed-effects and OLS estimates is much larger for men (-.10 versus -.13 for women, -.05

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effects models, because of effects of measurement error on coefficients. To see if our conclusions about the care penalty hold with fewer variables, we specified a model with 3 rather than the 8 job characteristics (other than industry) used in Table 3. Consistent with Tam, we retained all variables measuring human capital and labor supply, as well as geographic and industry dummies. Our model was like that in Table 3, but, instead of 8 contained only 3 job characteristics: the care work dummy, the cognitive factor, and percent female. The coefficients for care work are the same as in Table 3. Tam (1997) also advocated using the variable from the Dictionary of Occupational Titles measuring Standard Vocational Preparation. In the model just discussed, with the cognitive factor replaced by this variable, care work has a penalty of 9% (significant) for women and 2% (nonsignificant) for men. Adding union status to the model, we continue to get a 9% penalty for women, and the male penalty becomes 3%, significant at the .05 level on a 1 but not 2-tailed test. Overall, the care penalty seems fairly robust to reducing the number of job variables.

versus -.11 for men), suggesting that selectivity of those with low earnings potential into caring labor (relative to others in their sex) is less of a factor for women than men.

The rest of Table 4 compares the effect of working in caring labor to working in a broader category, which, following Leidner (1993), we call interactive service work. (The detailed occupations included in caring labor and interactive service work are listed in the Appendix.) All caring labor is interactive service work, but this broader category also includes work which, in our judgement, does not generally develop the capabilities of the recipient (it simply provides a service). Examples of workers coded as doing interactive service work but not caring labor are sales workers, waiters and waitresses, and receptionists. Table 4 shows that interactive service work nets a wage penalty. The penalty for interactive service work is close in size to the penalty for care work for men but substantially smaller for women (4% versus 10% for caring labor), and this holds in OLS as well. The fact that, at least for women, the penalty is greater for caring labor is consistent with the notion that altruism may motivate care work more than other interactive service work, and that our resistance to accepting the moral legitimacy of workers' demands for decent pay may, paradoxically, be greatest when the work gives something crucial to a dependent who cannot pay.

Table 5 returns to our narrower concept of caring labor, dividing it into several occupational clusters to see if each sub-type of caring labor has a "care penalty." To do this, instead of entering one dummy variable for care work, as in Table 3, we created separate dummies for several sub-types, and entered each of these into the regression model. The categories are child care workers, primary school teachers, secondary school teachers, professors and teachers in higher education, doctors, other medical workers (registered nurses, LPNs, orderlies) and a residual category for other caring labor, such as social and religious workers. (See Appendix.) We make no predictions about which categories will pay particularly badly relative to their predicted wage, but simply predict that all will have a

wage penalty. It is important to remember that these coefficients do not tell which occupations pay more in an absolute sense, but rather whether they pay more or less than occupations not involving caring labor after adjusting for differences in the (measured and unmeasured) human capital of their incumbents, job skill demands, and other job characteristics controlled in the models. In general, most of the signs are negative, as expected.

The largest penalty by far is doing child care, especially for women, who suffer a 41% penalty for doing this work. Men also receive a large penalty, 12%, for working in child care. Observing in our data that almost half of women who are child care workers are self-employed, whereas few of male child care workers or those doing other care work of either sex are self-employed, we wondered if there is a penalty for both employed and self-employed child care workers. To test this, in results not shown, we interacted self-employment status with the child care dummy (all other caring labor dummies were also interacted with self-employment status in the model). The results showed that for women, working in child care work has a 26% penalty if one is an employee, but a 69% penalty if one is self-employed. Compared to women child-care workers who are employees, self-employed child care workers are disproportionately white, married mothers who live outside inner city areas and have an employed husband. (Calculations are from results not shown.) Self-employed child care workers may occasionally be nannies, but much more often they are women taking children into their homes for pay while they also care for their own children. The work may pay even less than working as an employee at a day care center because fewer children are cared for per worker in in-home arrangements, and those doing the child care are often simultaneously caring for their own children, thus saving costs of child care and travel to work. Because of these factors, women who have the responsibility of caring for their own children sometimes find this their best option despite the extraordinarily low pay.

Other than two nonsignificant coefficients, all effects in Table 4 are negative except the significant positive effect of working in the "other medical" category. In results not shown we subdivided the "other medical" category and ascertained that this effect is largely driven by a wage premium (relative to the variables in our regressions) for nurses. The other non-doctor medical occupations also showed wage premia, but they were smaller. We were curious as to whether the night and other unusual shift work required in nursing might explain this pay premium. In results not shown, we included a measure of whether the individual worked irregular shifts (e.g. nights or weekends), but this reduced the positive coefficient on nursing very little. The premium persists even if we remove sex composition of occupation from the model (results not shown). This deviation from the general rule of a caring penalty may result because there has been a large increase in demand for nurses in recent decades owing to the aging of the population and the availability of Medicare and Medicaid to make third-party payments for such care. Another possibility is that nursing and many other medical specialties require that people have licenses to practice. Weeden's (2001) recent work shows that this form of occupational closure raises pay, and that the penalty for working in nurturant work (using England's 1992 operationalization, which we call interactive service work) gets larger when a control for licensure is added.

The finding of a wage penalty for doctors is puzzling at first glance, given their well known high pay. This penalty persists in OLS models (not shown). We believe it results from the young age of the sample. Workers were always under 36 in these data, and most doctors this age are interns or residents who work incredibly long hours for a moderate salary, and thus are making a small amount per hour relative to their education and skill level. We suspect that doctors, like other medical workers, would be found to be exceptions to the caring labor penalty if we had a sample with a larger age span.[4]

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[4] Another problem with estimating the effect of being a doctor with a fixed-effect model is that the technique is driven by changes in pay individuals experience as they enter

Overall, the analyses in Tables 4 and 5 invite confidence that the penalty for caring labor is real, and that it applies to most sub-types of caring labor other than health work.

CONCLUSION

Our empirical analysis has shown that care work carries a wage penalty. The fixed-effects analysis uses persons as their own controls, taking wage changes as people move into and out of care work as the basis of the estimates of the penalties for doing this kind of work. After controlling for changes in measured characteristics of individuals and jobs, the analysis shows that workers generally experience a decline in wage when entering a care occupation and an increase when leaving care work. The penalty identified here cannot be explained by low unmeasured human capital or a disinclination to bargain for high pay among care workers, because these individual characteristics would presumably affect their pay in all jobs, but the penalty for care occupations identified here shows us that the same person earns less when in an occupation coded as care work than when working in other occupations. Nor is any of the penalty in our estimates in Tables 3 and 5 explained by the predominantly female nature of the jobs, their location in marginal industries or the public sector, the fact that they are often not unionized, low cognitive or physical demands of the jobs, or low education and experience of incumbents, since these factors are statistically controlled through explicit inclusion of control variables. The 5-10% penalty for doing care work in Table 3 that we estimate is net of all these factors.

We suggested several reasons for the relatively low pay of care work. It often serves clients with little or no ability to pay, it involves a function culturally associated with women,

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or leave the occupation. However, people rarely enter medicine as a second career, and few leave medicine.

and thus devalued, and care work has not been able to take advantage of productivity per worker increases from capital investment to the extent that other work has.

We believe that the low pay of care work constitutes a social problem. First, there is the equity problem that those who do care work, mostly women, earn less than other workers at their skill level. This contributes to the gender gap in pay. But we would see it as an equity problem even if care workers were not disproportionately from any gender or race/ethnic group.

Second, because of the low pay, care may be undersupplied to those who need it. We see this as a social problem because neither individuals nor society can flourish without care. Deciding on the optimal level of care for a society, given that there are always competing needs and wants that resources could be spent on, is beyond our scope here and entails normative judgements as well as assessments of the societal effects of various jobs. But one beginning of an answer is suggested to us by the following considerations about the critical importance for society of care. Our claim, admittedly speculative, is that care work creates more diffuse social benefits than other kinds of work. This is in part because caring labor is an investment in the capabilities of those who receive care; it enhances their cognitive, physical, or emotional skills, their health, and their development of functional habits. Much other work produces things that are consumed and their benefits largely end there. In contrast, investments in people's capabilities make them more able to do things that increase their own and others' well-being. When care-giving is effective, its recipients learn to make a living, to meet many of their physical and emotional needs in daily life, and to get along with others. As these recipients interact with others, they are indirect beneficiaries of the care received by the direct recipients of care, whose enhanced capabilities have made them better friends, parents, spouses, workers, neighbors, or citizens. Thus, the benefits of this kind of work extend well beyond the direct recipients of care. For example, schooling makes people more productive, increasing their later

productivity in a job, which benefits the owner and customers of the employing organization. The teacher has created a benefit not just for the student, but for the employer the student will one day work for, and even the customers who will buy the goods or services offered by that employer. To take another example, if a client in psychotherapy learns to listen deeply and articulate his wants in a nonblaming way, this is likely to benefit his spouse, children, friends, and coworkers. Both unpaid and paid care work helps many in society, but markets provide no mechanism to make all those who indirectly benefit from the labor of the care worker pay her or him. Thus, we believe that the present system of providing care through a combination of the free market and relatively low levels of public subsidy leads to a suboptimal amount of care (Folbre 2001).

If we care about the collective well-being of society, about the well-being of those who need care but have limited means to pay for it, and about those who do care work, the most practical way to express this concern is through collective action to ensure governmental and other support for the work of care. State support is important because the state can tax all the beneficiaries of care work, internalizing some of the positive externality produced by care workers. To do this requires political will and organization as well as a change in cultural schemas. The best care work may be a bit like good mothering, but relegation to the impoverished pedestal is neither a way to honor mothers, nor to ensure that care will be available to us when we need it (Folbre and Weisskopf 1998; Nelson 1999; Folbre 2001). A more reasonable wage for paid care work is consistent with principles of equity and will help ensure an adequate supply of care to the community that benefits from this labor.

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Table 1

Means and Standard Deviations for Major Variables

	Women	**Men**
	N=41,988	**N=43,892**
Care Work (Narrow Definition- Used in Tables 2, 3) (dummy)	0.14	0.03
	(0.35)	(0.17)
Broader Concept of Interactive Service Work (dummy)	0.32	0.08
	(0.47)	(0.27)
Specific Sub-Types of Caring Labor (Dummies)		
Higher Education	0.001	0.0004
	(0.02)	(0.02)
Secondary Education	0.02	0.01
	(0.13)	(0.08)
Primary Education	0.03	0.004
	(0.18)	(0.06)
Child Care Workers	0.03	0.001
	(0.16)	(0.03)
Medical Doctors	0.002	0.003

	Women	Men
	(0.05)	(0.05)
Other Medical	0.09	0.01
	(0.29)	(0.12)
Other Caring Labor	0.08	0.02
	(0.27)	(0.15)
Other Job Characteristics		
Hazardous Conditions	7.98	23.95
	(18.29)	(30.80)
Strength	1.99	2.61
	(0.67)	(0.75)
Authority (Dummy)	0.08	0.12
	(0.27)	(0.33)
Cognitive Skill	1.07	0.85
	(1.67)	(1.64)
% Female in Industry*Occupation Cell	0.67	0.27
	(0.25)	(0.24)
Union (Dummy)	0.13	0.18
	(0.34)	(0.38)
Self-Employed (Dummy)	0.05	0.09
	(0.21)	(0.28)

	Women	Men
Human Capital and Labor Supply		
Education (years)	13.08	12.79
	(2.22)	(2.39)
Full-time Seniority (years)	1.81	2.24
	(2.64)	(2.96)
Part-time Seniority (years)	0.43	0.19
	(1.16)	(0.75)
Full-time Experience (years)	4.32	5.40
	(3.47)	(3.83)
Part-time Experience (years)	2.39	1.65
	(2.21)	(1.84)
# Breaks in Employment	2.24	2.26
	(1.92)	(2.03)
Current Job is Part-Time (Dummy)	0.28	0.13
	(0.45)	(0.34)
Usual Hours Per Week	35.45	41.47
	(11.43)	(11.81)

Dependent Variable		
Ln Hourly Wage	1.84	2.06
	(0.56)	(0.57)
Hourly Wage ($)	6.30	7.85
	(1.75)	(1.77)

Source: NLSY 1982-1993. Units of Analysis=person-years

Table 2
Percent of Each Ethnic-Sex Group in Occupations Coded as Care Work

	Hispanic Women	Black Women	White Women	Hispanic Men	Black Men	White Men
Care Work	**13%**	**12%**	**14%**	**3%**	**3%**	**3%**

Source: **NLSY 1982-1993**

Notes: Percents are % of person-years. Blacks and Whites are non-Hispanic.

Hispanics may be of any race.

Table 3
Results from Regression of Ln Hourly Earnings on Whether Occupation Involves Care Work and Control Variables, with Year and Person Fixed Effects

	Women		Men	
Job Characteristics				
Care Work	**-0.10**	*	**-0.05**	*
	(0.01)		(0.01)	
% Female	-0.07	*	-0.13	*
	(0.01)		(0.01)	
Union	0.08	*	0.14	*
	(0.01)		(0.01)	
Self-Employed	-0.10	*	0.05	*
	(0.01)		(0.01)	
Authority	0.02	*	0.03	*
	(0.01)		(0.01)	
Cognitive Skill	0.03	*	0.03	*
	(0.00)		(0.00)	
Strength Requirement	0.01	*	-0.03	*
	(0.00)		(0.00)	
Hazardous Conditions	0.00		0.00	*
	(0.00)		(0.00)	
Human Capital and Labor Supply				
Education	0.06	*	0.07	*
	(0.00)		(0.00)	
Part-time Experience	0.02	*	0.00	
	(0.00)		(0.00)	
Full-time Experience	0.03	*	0.01	*
	(0.00)		(0.00)	
Part-time Seniority	0.01	*	-0.00	
	(0.00)		(0.00)	
Full-time Seniority	0.01	*	0.02	*
	(0.00)		(0.00)	
# Breaks in Employment	-0.01	*	-0.02	*
	(0.00)		(0.00)	
Current Job is Part-Time	-0.03	*	-0.02	*
	(0.00)		(0.01)	
Intercept	0.72	*	1.71	*
	(0.23)		(0.11)	

Source: NLSY 1982-1993

Notes:* $p < .05$, two-tailed test. Models also control for urban/rural residence, region dummies (south, north central, northeast), and twelve industry dummies.

Table 4
Sensitivity Analyses for Effects of Working in Occupation Involving Care

	Women	**Men**
Effect from Table 3	**-.10***	**-.05***
Industry Dummies not controlled	-.12*	-.05*
% Female in Occupation / Industry not controlled	-.12*	-.08*
OLS rather than Fixed Effects	-.13*	-.11*
Broader Category of Interactive service work	-.04*	-.05*
Broader Category, Industry Dummies not controlled	-.06*	-.07*
Broader Category, %Female in Occupation / Industry not controlled	-.05*	-.07*
Broader Definition, OLS rather than fixed effects	-.04*	-.05*

Source: NLSY 1982-1993

Notes: * $p < .05$, two-tailed test. Except where stated otherwise, models control for education, full-time experience, part-time experience, full-time seniority, part-time seniority, # breaks in employment since 1st full-time job, whether current job is part-time, urban/rural residence, region dummies, occupational characteristics (hazards, strength requirement, authority, cognitive factor), union membership, whether person is self-employed, % female in occupation/industry cell, and industry dummies.

Table 5
Coefficients on Dummies for Particular Categories of Care Work

	Women	Men
Child-Care Workers	-0.41 *	-0.12 *
Primary School Teachers	-0.12 *	-0.04 *
Secondary School Teachers	-0.06 *	-0.07 *
Higher Education-Professors	-0.26 *	0.00
Doctors (includes dentists)	-0.10 *	-0.17 *
Other Medical	0.08 *	0 .04 *
Other Caring Labor (social workers, religious workers, etc.)	0.01	-0.11 *

Source: NLSY 1982-1993

Notes: * $p < .05$, two-tailed test.

Effects are for the indicated sub-type of care work relative to working in other occupations. Models are the same as those in Table 3 except that they include the list of dummy variables above instead of the single dummy variable for care occupations.

Models control for education, full-time experience, part-time experience, full-time seniority, part-time seniority, # breaks in employment since 1st full-time job, whether current job is part-time, urban/rural residence, region dummies, occupational characteristics (hazards, strength requirement, authority, cognitive factor), union membership, whether person is self-employed, % female in occupation/industry cell, and industry dummies.

Appendix Table A-1
List of Detailed Census Occupations Which Were Coded as Involving Care Work

	1980 Census Code
Doctors	
Physicians	084
Dentists	085
Optometrists	087
Podiatrists	088
Other Medical	
Registered nurses	095
Health diagnosing practitioners, not elsewhere classified	089
Inhalation therapists	098
Occupational therapists	099
Physical therapists	103
Speech therapists	104
Therapists, not elsewhere classified	105
Physicians' assistants	106
Dental hygienists	204
Licensed practical nurses	207
Dental assistants	445
Health aides, except nursing	446
Higher Education	
Professors (separate codes for various fields)	113-149
Teachers, postsecondary, n.e.c.	153
Postsecondary Teachers, subject not specified	154
Primary Education	
Prekindergarten and kindergarten teachers	155
Elementary school teachers	156
Secondary Education	
Secondary school teachers	157
Child Care	
Child care workers, private household	406
Child care workers, except private household	468
Other Caring Labor	
Special education teachers	158
Teachers, not elsewhere classified	159
Educational and vocational counselors	163
Teachers' aides	387
Librarians	164
Social workers	174
Recreation workers	175
Clergy	176
Religious workers, not elsewhere classified	177

Appendix Table A-2

Occupations Included in Broader Category of Interactive Service Work, But Not in Care Work

Receptionists	177
Motor vehicles and boats sales workers	263
Apparel sales workers	264
Shoe sales workers	265
Furniture and home furnishing sales workers	266
Radio, television, hi-fi, and appliance sales workers	267
Hardware and building supplies sales	268
Parts sales workers	269
Other commodities sales workers	274
Sales counter clerks	275
Cashiers	276
Hotel clerks	317
Transportation ticket and reservation agents	318
Bartenders	434
Waiters and waitresses	435
Receptionists	319
Information clerks, not elsewhere classified	323
Bank tellers	383
Elevator operators	454
Barbers	457
Hairdressers and cosmetologists	458
Attendants, amusement and recreation facilities	459
Guides	463
Usher	464
Public transportation attendants	465
Baggage porters and bellhops	466
Welfare service aides	467
Personal service occupations, not elsewhere classified	469
Taxicab drivers and chauffeurs	809
Parking lot attendants	813

Note: Occupations above were used in the analyses in Table 4 assessing the effect of the broader category of interactive service work. These occupations were not counted as care work because, while they involve a face-to-face service to a recipient, they were not judged to increase the recipient's capabilities.