



Labor market experience, work organization, gender inequalities and health status: results from a prospective analysis of US employed women[☆]

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Abstract

Women's labor force participation has increased dramatically over the past several decades. Although previous research has documented that a wide array of labor market characteristics affect health, more work is needed to understand how women are impacted by gender-specific employment patterns and exposures. We examine a cohort of 659 employed women from the Baltimore Epidemiologic Catchment Area (ECA) study in the USA. Baseline and follow-up data collected 13 years apart are used to identify associations between demographic, labor market, work organization, and occupational gender inequality with four health outcomes: generalized distress, depressive syndrome, anxiety and fair or poor health. We also use gender-specific data on the workplace to create indicators of occupational gender inequality.

We found wide gender inequalities in terms of pay and power in this sample of employed women. Financial strain was associated with all of our mental health outcomes with those reporting financial strain having increased odds of distress, depressive syndrome and anxiety for the 13 years prior to the interview. Workplace factors that were found to be associated with the four outcomes included experiencing a promotion or demotion in the 13 years prior to the interview; working at a large firm; and being a professional. Occupations where women compared to men had lower levels of job strain—domestic workers in private households, machine operator and transportation—showed increased risk for anxiety or fair/poor health.

Our findings suggest that measuring the complexities of employment including promotion or demotion history, firm characteristics and even occupational gender inequality can yield important information about associations with health among women.

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1. Introduction

Women's labor force participation has increased dramatically over the past several decades. Since 1950, women's labor force participation has increased 173% (Wagener et al., 1997). Numerous studies have provided evidence for the role of workplace factors in producing health (e.g., Herold & Waldron, 1985; Muntaner &

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O'Campo, 1993; Johnson & Hall, 1995; Macran et al., 1996; Roxburgh, 1996) and a growing number have examined the effects of work on women's health (e.g., McLanahan & Adams 1987; Waldron & Jacobs, 1988, 1989; Arber 1991; Weatherall et al., 1994; England, 1996; Wagener et al., 1997; Khlat et al., 2000).

Research on employment factors and women's health has focused on several topics including issues concerning workplace exposures and pregnancy (Ceron-Mireles et al., 1996; Landsbergis & Hatch, 1996; Savitz et al., 1997) and women's ability to juggle the multiple roles of spouse, worker, homemaker, and parent (Nathanson, 1980; Waldron & Jacobs, 1989; Weatherall et al., 1994; Bianchi & Spain, 1996; Frone, 1997; Repetti, 1998; Khlat et al., 2000). Yet few studies have examined whether and how gender inequalities are associated with poor health status.

It has been well documented that women and men have different experiences at work (Reskin & Padavic, 1994; Valian, 1998). Gender inequality manifests itself in many aspects of work including types of jobs occupied by men and women, pay, promotion, and access to jobs with power to name a few. Gender segregation in the workplace traditionally describes the process whereby men and women work in different types of jobs, and further that jobs where women predominate tend to be devalued. It has also been shown that within occupations, women may have different experiences when it comes to pay, promotion, and decision-making. Women and men have been found to have different tasks despite having the same job title (Messing, Dumais et al., 1994). Women are paid less than men for the same jobs even after accounting for education, training and job experience (National Academy of Sciences, 1989; Valian, 1998). Women are less likely than men to hold managerial or positions of power (Wright, 1997). Recent data show that only 10% of top 500 companies have women holding top executive positions; 90% have no women corporate officers (Catalyst, 1998).

Because of the lack of research on this topic, there are few guides as to how we might conceptualize and measure gender inequality in the workplace and how these inequalities may impact health. Thus, the creation of indicators of gender inequality in the workplace is one area that we sought to explore in this paper. We were interested in how gender inequalities may manifest themselves within the same occupational titles.

We further sought to examine in an exploratory fashion associations regarding gender inequalities and health status with these data. Jobs with greater gender inequality in the area of pay, promotion, or power may contribute to poorer health outcomes among women. Women who are working in occupations with greater levels of relative gender deprivation with regard to pay for equal jobs or positions of power may be negatively impacted when it comes to health and especially mental

health. Compared to men, women may be segregated into jobs with greater negative health consequences. For example, previous work has shown that jobs classified as "women's jobs" are more likely to be passive jobs, or jobs with low demands and low levels of control which have been linked to adverse health outcomes (Karasek & Theorell, 1990). Thus, women exposed to jobs with greater gender inequalities with regard to job demands or passivity may be associated with poorer health status.

Our sample is unique in several ways. First, the Baltimore Epidemiologic Catchment Area study collected a wealth of information on labor market characteristics (i.e., compensation, employer size, occupational hierarchy, promotion, demotion) which have seldom been examined simultaneously in the past. We were able to use this wealth of data to create indicators to examine gender inequality by categories of occupation. We also take advantage of the prospective design of the Baltimore ECA Follow-up which studied the mental health status of an urban cohort for 13 years, to examine our research questions on women's employment and health. Few previous studies have used structured psychiatric interviews to yield clinical-style diagnoses of adverse mental outcomes. Baltimore's ECA used structured, non-clinical interviews to obtain psychiatric diagnoses of baseline and follow-up outcomes such as anxiety and depressive syndrome.

2. Methods

The Epidemiologic Catchment Area Survey (ECA) was one of the first studies in the US to assess lifetime history of specific mental disorders in a population based sample (Eaton & Kessler, 1985; Robins & Regier, 1990). East Baltimore was one of five US metropolitan areas where the initial ECA was conducted over the period 1981–1982. Of the original East Baltimore sample ($N = 3481$), 1920 (73%) were successfully located and interviewed for the 1993–1996 follow-up.

Data for this study come predominantly from the 1993–1996 follow-up. The methodology and results for the Baltimore ECA follow-up have been previously reported in greater detail (Badawi et al., 1999). Our primary sample for this analysis concerns women who have worked full time at some time in their adult lives and who, in 1993–1996, were not yet retired ($N = 659$). We also included, in the construction of the gender inequality indicators in the workplace, the 446 men who were also not retired at the time of the follow-up survey and who had held a full time job as an adult.

The interview collected information about demographics, several risk factors for mental health including employment-related characteristics and psychiatric status at the time of the survey. Although we were

primarily interested in the association between employment-related factors and mental health, we also included several possible confounding and adjustment variables in our analyses. The variables used in this study are described below.

Outcome variables

The 20-item version of General Health Questionnaire (GHQ) assesses a general sense of distress using self-descriptive items (Goldberg, 1972). High scores on the 20-item GHQ indicate high distress. In the current sample, the GHQ-20 was internally consistent ($\alpha = 0.97$ for the 1993–1996 survey). Using all items, we created a high distress category by identifying those women who fell into the highest tertile of GHQ scores (the cutoff for highest GHQ tertile was determined using the whole ECA sample, not just the women).

Depressive syndrome and anxiety disorders were assessed using the Diagnostic Interview Schedule (DIS) (Robins et al., 1981), a structured interview administered by interviewers with survey experience but no clinical training. The DIS provides an assessment of the presence and severity of psychiatric symptoms, while excluding symptomatology attributed to non-psychiatric disorders and to drugs. Based on responses to the DIS, computer algorithms generated psychiatric diagnoses according to the DSM-III-R (American Psychiatric Association, 1987). Depressive syndrome identifies the presence of symptoms in the following areas: appetite, sleep, suicidal ideation, fatigue, restlessness or slowness of movement, feelings of worthlessness, concentration, anhedonia, and dysphoria where the last two symptoms had to be present. Anxiety disorders encompass a number of diagnoses where fear or conditioned fear plays a major role. Anxiety disorders were defined as having any one of the following diagnoses during the 12 months preceding the DIS interview: simple phobia, social phobia, agoraphobia, panic attack, generalized anxiety disorder or obsessive-compulsive disorder. ECA participants were asked about their self-reported overall health as being excellent, very good, good, fair or poor. We combined fair and poor into a single category and compared it to the remaining categories.

Independent variables

Age in years on respondent's last birthday was collected. *Marital status* was recorded as married (which included living with someone as if you were married), widowed, separated, divorced and never married. Our analyses distinguished those who were married from those who were not. We also had information on care taking roles such as *children* or *elders* in the home. Children were examined in two ways, any children in the home versus none and preschool children (under 6)

versus none. The latter was examined as having young children in the home is a risk factor for poorer mental health. Elders in the home was defined as any parent or other relative over age 65 living in the home. *Household income* was recorded in 21 categories ranging from less than \$1000 per year to \$150,000 or more per year before taxes. We also included a subjective measure of *financial strain* which was based upon three questions. The questions were "In general, would you say that you/your family has more money than you need, just enough for your needs or not enough to meet your needs?", "How difficult is it for you/your family to pay monthly bills—very difficult, somewhat, not very, or not at all difficult?", and if the family was experiencing difficulty, they were asked "Did this difficulty start in the past 12 months?" If families did not have enough money, had difficulty paying monthly bills and these financial problems began prior to the last 12 months then they were considered as having "financial strain". This variable was correlated with household income (Spearman's rho 0.42). *Disability* was ascertained through several questions. Participants were asked whether over the last 3 months where they were kept from their usual activities (e.g., work, school) due to (1) an accident or injury or an (2) illness or physical condition ("disability days"). They were also asked whether they were receiving disability payments from Social Security, Veterans Administration, State of Maryland, or any other source ("disability payments").

Several questions regarding employment were included in the Baltimore ECA follow-up. *Firm size* was a dichotomous variable indicating whether women worked for businesses that had 1000 or more employees versus smaller firms. Women were also asked whether they *supervise* anyone as part of their job and a binary "yes", "no" variable was created. Women were also asked about their participation in *policy making* at work. Women who were very frequently or frequently involved in policy making in the workplace were differentiated from women who were less frequently or not involved in making workplace policy. We assessed two forms of organizational assets using questions about authority relations and involvement in policy making in the workplace. We asked about power over subordinates (i.e., sanctioning authority such as granting or preventing pay raises or promotions, hiring, firing, or temporarily suspending a subordinate), and about influence on company policy (i.e., making decisions over the number of people employed, products or services delivered, amount of work performed, and size and distribution of budgets). Responses to these questions were used to create three category of people in the workforce: *managers* were those who supervised more than four individuals and had influence on company policy, *supervisors* were defined as those with power over subordinates but no influence on policy making and

workers had neither authority nor influence over policy making as defined above.

We also had information on job demands and control (Karasek et al., 1982). Information about the “physical job demands” and “psychological job demands” were assessed using the Job Content Questionnaire (JCQ) (Karasek et al., 1994). Physical demands are measured using five items (e.g., lift heavy loads, awkward body positions) and psychological demands are measured using nine items (e.g., work fast, hectic job). Control over the work process will be assessed using three scales from the JCQ: “skill discretion” (six items as the opportunity for learning new things on the job or being creative) and “decision authority” (11 items independent decision making, supervisory responsibilities, and policy-making activities). The “strain hypothesis” (i.e., high psychological demands/low control) posits that high strain is associated with poorer health. Similarly, passive jobs (low demands/low control) have also been associated with poor health (Karasek et al., 1982).

Workplace inequality variables

We used data on men and women in the ECA sample to create variables representing occupational gender (in)equality. As the ECA sample is a random sample of the population, men and women in the sample should be fairly representative of their occupations within the East Baltimore area. Thus, we created variables that represented the status of men and women within nine occupational categories (see Table 2). These nine occupational categories were based upon the census coding of occupations using twelve groupings. We wanted a large enough sample within each occupational category to be able to create stable measures of inequality. As there were too few persons employed in “farming” in this sample that category was eliminated. We also combined “precision production”, “mechanics” and “construction” into a single category. All categories had at least 70 persons within them. Because the ECA sample was disproportionately female (58%), for the sex ratios, we accounted for the overall sex composition of sample. The category for “private household” refers to jobs such as domestic workers who clean homes.

We were interested in gender equity with regard to pay, supervisory responsibilities, policy-making responsibilities, jobs with high strain, and jobs that are passive. To create the gender inequality variables, we first calculated gender-specific averages for each factor of interest (e.g., occupational-specific income, occupational specific jobs with supervisory responsibilities, etc). Then we created female to male ratios of those gender-specific occupational averages. For example, for the pay inequality indicator, we obtained average pay by

occupation for men and women separately. We then obtained the ratio of average women's to men's pay for each occupational category as the pay inequality indicator. (For the income inequality ratios, we took into account the levels of education of the men and women through regression analyses that were used to obtain the gender-specific income averages.) We created a second type of inequality indicator, ratio of female to white male inequality. Feminist economists have argued that gender comparisons should be made to the most privileged class of individuals, white males (Ammot & Matthaei, 1991). Thus, a second set of inequality indicators was created using female averages compared to white male averages within the ECA. For *supervision* we compared the proportion of women versus men who held jobs that required supervision of four or more employees. For *policy making* we compared women to men who held jobs that required frequent to very frequent input into company policy making.

We present the distribution of the occupational gender inequality variables in Table 2. For the regression analyses, we created indicators of high or low status (based upon highest or lowest quartiles or tertiles) of gender inequality. We also explored the validity of the created inequality variables by examining their correlation with demographic and job-related characteristics.

Statistical analyses

We used multivariate logistic regression modeling to identify workplace, demographic, caretaking and occupational gender inequality factors that were associated with the prevalence of adverse mental and physical health. The regression models of prevalence for each of the outcomes adjust for the presence of the equivalent mental disorder or poor health status identified in 1981 interview, in effect, this amounts to a measure of change in diagnosis or syndrome. For example, for depressive syndrome, our outcome is lifetime identification of depressive syndrome at the 1993–1996 interview point. We included a variable in the regression models that represented whether individuals had a depressive syndrome in 1981. Model building techniques were employed in the regression analyses whereby categories of variables were added to the models in the following order: demographics, work-related factors, gender inequality factors. After all variables for a particular category were in the regression models, only those that remained significant at the 0.10 level remained in the model. Once all categories of variables were added to the regression models, we eliminated any variables that retained a *p*-value of 0.05 or higher. Table 3 presents odds ratios, 95% confidence intervals and *p*-values for the final regression models.

3. Results

The mean age of our sample of 659 women was 53. Less than half were married but about half had children living in the home. Approximately 16% had children under the age of 6 in the home (data not shown). Relatively few, 2%, had elders over the age of 65 living in the home. Just over 40% of the sample had a disability that affected their work (see Table 1).

About half the sample reported financial strain. Approximately 83% of our sample was employed full time at the time of the interview. Twenty-one and a half percent held professional jobs, approximately 30% held passive jobs and 24% held high strain jobs. About 17% were supervisors, 10% were managers, and 54% were workers (neither managers nor supervisors).

Over half of our sample reported symptoms consistent with being anxious at the time of the follow-up interview, and about quarter of the sample reported having depressive syndrome and fair or poor health.

Table 1
Characteristics of women in the Baltimore ECA follow-up sample who have ever held a full-time job and have not yet retired, 1994–1996 ($N = 659$)

Variables	Proportion or mean (s.d.)
Age	53 years (s.d. = 16)
Married	46.3%
Children in the home	49.6%
Dependent elders in home	2.0%
Disability (% yes)	41.7%
Financial strain (% yes)	48.9%
<i>Income</i>	
\$0–10k	15.2%
\$11k–30k	41.0%
\$31k–80k	31%
> \$80k	12.8%
Currently working full time	82.7%
Large firm size (% > 1000 employees in firm)	7.6%
Professional job	21.5%
Promoted in last 13 years	53.3%
Demoted in last 13 years	24.4%
Passive job (% yes)	30.2%
High job strain (% yes)	24.4%
Supervisor	16.8%
Manager	10.2%
Worker (neither supervisor nor manager)	54.4%
Current distress (% high GHQ)	37.5%
Current depressive syndrome	28.5%
Current anxiety (% anxious)	56.8%
Current fair or poor health	22.1%

Table 2 presents the distribution of the seven occupational gender inequality variables comparing women to all men. While we had originally created two sets of indicators, we found that the occupational gender inequality variables for comparing women to white men were very similar in distribution to the indicators comparing women to all men. Thus, we present the data for the latter comparisons only. For the female to male sex ratio, most occupational categories had ratios over 1 indicating that the proportion of women in each category is much higher than the ratio of employed women to men in the ECA sample. There is quite a bit of variability across the occupational categories. There are several categories of occupations where the ratio of women to men is quite high including sales, health (service delivery), and professional (specialty).

The ratio of F/M income is uniformly well below 1.0, with women in private household, transportation, health (technical) and professional occupations receiving much lower wages than men. By contrast, the F/M educational attainment within each occupational category is the least disparate between men and women with many occupational categories at or around 1.0 suggesting that women have similar educational levels as men within occupations. Across the occupations, except for mechanical/construction, women tended to hold fewer jobs with supervisory responsibilities compared to men. Jobs with more equitable distribution of supervisory jobs for women compared to men include mechanical/construction, executive, professional (specialty), and transportation. Women tended to hold fewer jobs with policy-making responsibilities except for in the health (services) occupation. Professional (specialty) and private household occupations had particularly low F/M ratios for positions involved in policy making. Ratios of F/M strain showed a wide distribution ranging from zero for machine operator and transportation to a high of 1.55 for mechanical/construction. The F/M ratio of passive jobs was over 1.0 for most occupational categories except health (service delivery and technical).

To explore the validity of these inequality variables, we examined whether they were associated with demographic and job characteristics and found some correlations. High physical demands on the job was negatively correlated with higher female to male ratios of policy making (correlation -0.29). Professional status was associated with two of the inequality variables: higher ratios of female to male policy making was positively correlated with being a professional (0.36) and having high female to male ratios of passive jobs was negatively correlated with being a professional (0.68). Finally, having a college degree was positively correlated with having a high female to male ratio of supervising four or more persons.

Table 2

Gender inequality comparing women to men within nine occupational categories as measured in the Baltimore Epidemiologic Catchment Area Follow-up 1993–94

Occupational category	Ratio of F/M	Ratio of F/M income	Ratio of F/M years of schooling	Ratio of F/M supervisory positions	Ratio of F/M policy making	Ratio of F/M strain	Ratio of F/M passive jobs
Executive	1.73	0.68	0.92	0.82	0.75	0.76	1.43
Professional (specialty)	3.80	0.51	1.02	0.70	0.36	0.75	2.54
Health (technical)	2.62	0.50	0.79	0.63	0.63	0.61	0.81
Health (services)	6.01	0.63	1.01	0.43	1.08	0.81	0.78
Sales	8.33	0.53	0.86	0.66	0.78	1.42	1.24
Private household	2.56	0.30	0.68	0.39	0.28	0.12	1.01
Mechanical/construction	0.22	0.70	1.00	1.10	0.74	1.55	1.78
Machine operator	2.92	0.60	0.83	0.52	0.62	0.00	2.01
Transportation	0.48	0.46	1.11	0.73	0.32	0.00	1.71

Table 3

Odds ratios and 95% confidence intervals from logistic regression models for employed women in the Baltimore Epidemiologic Catchment Area Follow-up Survey, $N = 659^a$

Outcomes	Model 1	Model 2 ^b	Model 3	Model 4
	Highest tertile of 20 item GHQ	Depressive syndrome	Anxiety	Fair or poor health
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
<i>Variables</i>				
Age				1.02 (1.0–1.04)**
Marital status		0.63 (0.41–0.96)**		0.46 (0.3–0.7)***
Child in the home				
Financial hardship	1.77 (1.3–2.5)***	2.25 (1.5–3.4)***	1.78 (1.3–2.5)***	
Disability	1.57 (1.1–2.2)***	1.54 (1.0–2.3)**		2.40 (1.4–3.5)***
<i>Work-related factors</i>				
Large firm	0.34 (0.2–0.7)***		0.45 (0.2–0.8)***	
Promotion	0.88 (0.8–0.98)***			
Professional				0.54 (0.3–0.9)**
Demotion	1.53 (1.0–2.4)*			
<i>Gender inequality factors</i>				
Low F/M strain			1.7 (1.1–2.8)**	2.0 (1.2–3.2)***

* $p = 0.05$ ** $p < 0.05$ *** $p < 0.01$

^aAlthough only the statistically significant variables were retained in the final models shown in this table all models originally included the following demographic, employment and gender inequality variables: age, marital status, disability, financial hardship, child in the home, dependent elder in the home, firm size, manager, supervisor, non-managerial and non-supervisory worker, professional, unemployed at any time in the 13 years prior to the interview, promotion in the 13 years preceding the interview, demotion in the 13 years preceding the interview, high job strain, passive job, and for the occupational categories, F/M pay inequality, F/M ratio of supervisors, F/M ratio of low strain jobs, F/M ratio of passive jobs, F/M ratio of policy making, F/M ratio of gender composition. The definitions of all variables can be found in the Methods section of the paper.

^bThis model is adjusted for the F/M ratio of high job strain.

GHQ. Table 3 presents the results of logistic regression analyses for our four health outcomes. Women with financial hardship and disability had moderately in-

creased odds of high levels of distress (Table 3, Model 1). Working in a large firm had a strong protective effect for high levels of distress and receiving a promotion in

the 13 years prior to the interview was mildly protective for high distress. Receiving a demotion, on the other hand, showed moderately increased odds of high levels of distress. No gender inequality variables were associated with high levels of distress among the women in the ECA sample.

Depressive syndrome. Women who were married compared to those who were single had lower odds of depressive syndrome (OR 0.63, 95% CI 0.41–0.96) (Table 3, Model 2). Women who reported financial hardship and those reporting disability had higher odds of experiencing depressive syndrome compared to those without financial hardship and no disability.

Anxiety. Financial hardship was associated with a moderately increased odds of having anxiety among the women in the ECA sample (OR 1.78, 95% CI 1.3–2.5) (Table 3, Model 3). Working in a large firm showed a strong protective effect for having anxiety (OR 0.45). One gender inequality variable was associated with anxiety, low levels of F/M strain. Women in the occupations with the lowest levels of F/M “job strain” ratios showed a moderately increased odds of having an anxiety disorder (or 1.7, 95% CI: 1.1–2.8).

Fair or poor health. A weak association with increasing age and fair or poor health was observed (Table 3, Model 4). Marital status was associated with a moderately decreased odds of reporting fair or poor health in this sample of ECA women (OR 0.46, 95% CI: 0.3–0.7). Disability status was strongly associated with reporting fair or poor health (OR 2.4). Being in a professional occupation was associated with a moderately decreased odds of reporting fair or poor health. One gender inequality variable was associated with reporting fair or poor health, low levels of F/M “job strain”. Having a job that fell into the lowest levels of F/M job strain ratios was strongly associated with an increased odds of reporting fair or poor health (OR 2.0, 95% CI: 1.2–3.2).

4. Discussion

We sought to contribute to the growing literature on women's labor market characteristics and health outcomes. Our study had several strengths including the use of psychiatric interviews to obtain clinical-style diagnoses of baseline and follow-up mental health outcomes such as anxiety and depressive syndrome. We had data on mental health for two points in time, approximately 13 years apart, for our sample of women allowing us to account for mental health status that preceded the employment exposures. We had data to simultaneously examine several indicators of labor market risk factors (i.e., compensation, employer size, occupational hierarchy, promotion, demotion). And finally, we were able to use these data to create indicators for examining the

extent of pay, power and work organization gender inequality by categories of occupation.

Despite some observed associations with work-related characteristics, some of the hypothesized relationships were not confirmed. Significantly, we found no associations with several of the individually based work organization variables—job strain, passive jobs—and health outcomes. This deviates from some previous research in this area (Hibbard & Pope, 1987; Griffin et al., 2000). A previous study using the same Baltimore ECA follow-up data reported significant associations with high job strain and major depressive disorder but, like our analyses, not depressive syndrome among women (Mausner-Dorsch & Eaton, 2000). Mausner-Dorsch and Eaton's analysis differed from ours in that they used a modified version of Karasek's demand control scale based upon results of factor analyses and did not account for earlier depressive syndrome as we did in this analysis. Our analysis showed no associations with individual reports of job strain and distress, depressive syndrome, anxiety or fair/poor health. Differences between our analysis and previous studies include the younger age distribution of other studies (Hibbard & Pope, 1987), cross sectional analyses of other samples (Hibbard & Pope, 1987; Mausner-Dorsch & Eaton, 2000), and use of non-clinically based assessments for mental disorders (Griffin et al., 2000), making direct comparisons of these studies to ours difficult.

In addition, the lack of associations for the workplace factors may be explained by the demographic characteristics of or information available in our study sample. First, this is a middle- and older-aged population of women with the average age being in the mid-50s. Relatively few women in this sample had young children in the home. The proportion who had elders in the home may have been too small to be able to measure the impact of this care-giving responsibility on health outcomes. Since this is an older sample, a sizable proportion of women are close to or beyond the age for retirement. However, the employment-related factors of interest to us, especially the gender inequality factors, may be more salient for younger women who are climbing their career ladders or who have not yet peaked in their careers. Moreover, given that the women in our sample have been in the workplace for so long, they may represent a resilient worker population with regard to being impacted by factors in the workplace such as job strain. It is also possible that given the 13 years span used to construct our workplace exposure information, that varying time intervals between exposure and outcomes for the individuals in our study contributed to the inability to detect associations (e.g., for passive jobs, some persons may have been involved in such jobs for years while others may have only recently entered into a job that is considered passive yet

both are considered a “yes” on the “passive jobs” variable). If some or all of these factors are operating in this set of analyses, we might expect to see fewer associations with workplace factors and health outcomes for our sample than for a younger sample of women or for a sample with a shorter follow-up period.

Several new associations with work variables and health outcomes for women were observed our study. One of the most consistent associations observed for the mental health outcomes was that for financial strain. Consistent with previous work on poverty and unemployment, those with financial strain reported higher odds of distress, depressive syndrome and anxiety. Having received a promotion within the 13 years prior to the survey was protective for high levels of overall distress (GHQ). Having received a demotion within the 13 years prior to the survey was associated with high levels of overall distress. Our apriori assumption about firm size was that larger firms may have formal policies that support women's needs to provide for self and care-taking responsibilities (e.g., going to the doctor for self or child) and that promote health. Large firm size was protective for general distress (GHQ) and anxiety but not the other two outcomes. Being a professional was only protective for fair or poor health.

Our findings share similarities and differences from some studies on women's employment and health. First, we found that marital status was not consistently associated with all of our health outcomes. Married women were less likely to report depressive syndrome or fair or poor health in our study but not anxiety disorder or distress. Previous studies of women's employment and health, or women's multiple roles and health have found that being married is associated with better health (Arber, 1991; Weatherall et al., 1994; Macran et al., 1996; Khlal et al., 2000; Lahelma et al., 2000). We also found few associations with care-giving roles—that is children in the home, elderly relatives in the home—and health outcomes while some previous literature has documented associations with adverse mental health and presence of young children in the home (e.g., McLanahan & Adams, 1987) but not all (e.g., Arber 1991; Macran et al., 1996; Dautzenberg et al., 1999; Griffin et al., 2000). The individually based measures of policy making or occupationally based class measures (Wright, 1997) were not associated with any of the outcomes we examined among the women in our sample. This warrants further investigation in other samples, especially samples of women in earlier stages of their careers. Moreover, given the complexity of our data—the exposure data spanning 13 years and the numerous workplace and individual factors—use of statistical analyses such as survival analysis might have yielded different results. These types of statistical methods might be employed in future investigations of these and other rich data.

This is the first study, to our knowledge, to describe gender inequality in terms of pay, power, and job stress within occupational categories for the purpose of examining associations with women's health status. We demonstrated substantial inequality between men and women within occupational categories in the area of pay, positions of power, supervisory responsibilities, jobs with high strain and jobs that are passive. In general, women are more likely to have passive jobs, to receive lower pay, to occupy jobs with fewer policy-making responsibilities, and occupy jobs with fewer supervisory responsibilities. Our findings are consistent with previous empirical reports in the literature on differences in men's and women's situations in the workplace (Messing et al., 1994; Reskin & Padavic, 1994; Johnson & Hall, 1995; England et al., 1996; Messing, 1998). Notably, in our sample, women had a lower status in the workplace despite a somewhat equitable distribution of educational attainment among women and men within occupational categories. These work inequality variables are generalizable to the extent that we can say that the sample is representative of men and women residing an urban environment. The Baltimore ECA is somewhat over representative of smaller businesses (e.g., small family businesses) where gender segregation may be different from that observed in larger organizations. But given that a random sampling process was employed, the men and women in the sample should be equally representative of their stated occupations; thus, the differences between men and women as reflected in the inequality indicators should be similar to what we might see in other samples of employed urban populations. The Baltimore ECA follow-up study had extensive information on employment characteristics that could be used to create this varied set of inequality indicators. Future studies should attempt to measure gender inequalities among larger samples of workers to enable the creation of inequality indicators for more refined categories of occupation.

We found that one indicator of gender inequality, Low F/M strain was associated with two of our outcomes of health and well-being. Surprisingly, women in jobs where there were low F/M strain ratios had higher levels of anxiety and fair or poor health. We would have predicted that jobs with low F/M strain would lead to better, not worse, health outcomes. This finding, in part, may be a function of the distribution of that variable. Two of the occupational categories with low ratios of F/M strain—machine operator and transportation—had values of zero indicating that no women reported “high job strain” (high levels of job demands and low levels of job control) in those occupations. These are traditionally male occupations and women in those occupations may have more passive jobs (low levels of demands and low levels of control) as

supported by our data on the ratio of F/M passive jobs. The Machine operator and Transportation occupations were among those occupations with the highest levels of F/M passive jobs. Future studies with larger samples enabling an examination of gender inequality using more refined occupational measures may facilitate a greater understanding of this finding.

Taken together, our findings suggest that measuring the complexities of employment including promotion or demotion history and firm size can yield important information about associations with health and well-being beyond what is typically measured in work-related studies. Moreover, examining gender inequality within occupations adds another important dimension to being able to identify determinants of health and well-being. Indicators of gender inequality should be examined in future studies of employed populations to gain a greater understanding of how structural factors contribute to the health and well-being of employed persons.

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