Oxford Economic Papers 57 (2005), 479–496 **479**
doi:10.1093/oep/gpi015

Job satisfaction and gender segregation

By Keith A. Bender*, Susan M. Donohue†, and John S. Heywood‡

*Department of Economics, University of Wisconsin-Milwaukee and Centre for European Labour Market Research, University of Aberdeen, UK
†Graduate Program in Human Resources and Labor Relations, University of Wisconsin-Milwaukee
‡Department of Economics, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201, USA, and Department of Commerce, University of Birmingham; e-mail: heywood@uwm.edu

Using data from the US, the determinants of overall job satisfaction are estimated as part of explaining 'the paradox of the contented female worker'. Confirming earlier studies women report higher job satisfaction than men and higher job satisfaction in workplaces dominated by women workers. The US data allow us to demonstrate that men and women value job flexibility differently and that once differences in the extent of job flexibility are accounted for, the gender composition of the workplace plays no role in determining the job satisfaction of women. Thus, women in female dominated workplaces may report higher job satisfaction because they value job flexibility and so choose to dominate the workplaces that provide job flexibility.

JEL classification: J28, C25.

1. Introduction

The long-standing interest in estimating the size of the gender earnings gap has recently been joined by interest in estimating the gender gap in job satisfaction (Clark, 1997; Sousa-Poza and Sousa-Poza, 2000; Sloane and Williams, 2000; Donohue and Heywood, 2004). The recent focus on job satisfaction is motivated by the recognition that jobs entail complicated bundles of characteristics. These include not just earnings, but fringe benefits, working conditions, effort requirements, the chance for promotion, the quality of co-workers and supervisors, and the intrinsic benefits from the actual work being done. While a subjective notion, job satisfaction has been argued to provide a more comprehensive measure of workers' utility from the job (Clark and Oswald, 1996).

In both the United Kingdom and the United States, a contrasting portrait of relative earnings and satisfaction has been painted. The estimated gender earnings gap indicates women are paid less, but women in both countries appear more

satisfied with their jobs than men[1] (Clark and Oswald, 1996; Clark, 1997; Sloane and Williams, 2000; Sousa-Poza and Sousa-Poza, 2000). The literature provides two explanations. First, satisfaction is a function of expectations, and if women have lower expectations about labour market outcomes, their expectations are more easily fulfilled (Clark, 1997). Second, the bundle of characteristics associated with women's jobs may appeal to them sufficiently to overcome the satisfaction lost from their lower earnings.

These same two explanations have been used in exploring the role of occupational segregation. Thus, the argument that women's jobs appeal to them sufficiently to overcome lower earnings clearly requires that women disproportionately 'choose' a particular set of jobs. Yet, much of the literature assumes that women are 'crowded' into a particular set of jobs. Female dominated jobs pay less, all else being equal, a finding thought to support the notion that gender segregation results from discrimination (Kidd and Goninon, 2000; Johnson and Solon, 1996; Millward and Woodland, 1995).[2] Certainly, Richard Anker of the International Labour Organization summarizes the position of many: 'Occupational segregation by sex occurs everywhere, causing labour market rigidity and economic inefficiency, wasting human resources, preventing change, disadvantaging women, and perpetuating gender inequalities' (Anker, 1997, p.315). Thus, one might anticipate that the job satisfaction of women should be lower in the female dominated jobs into which they are crowded.

Despite this anticipation, the evidence to date from the UK (Clark, 1997; Sloane and Williams, 2000) actually suggests that the job satisfaction of females increases as the female share of the workplace increases. Sloane and Williams (2000) take this as evidence that women largely 'choose' the jobs they dominate arguing that policy designed to decrease segregation would reduce the job satisfaction of female workers. Clark (1997) argues that his essentially similar evidence fits an expectation argument in which women in male dominated jobs have higher expectations for satisfaction from work (Loscocco and Spitze, 1991), and so their expectations are not as easy fulfilled. The result is that women in male dominated jobs are less satisfied than women not in male dominated jobs. These two explanations remain reasonable alternative hypotheses for explaining the common pattern of increased job satisfaction of women when the female share of the workplace is higher. It is that pattern that we wish to confirm (as there has been no US study of it) and its explanation which we wish to consider in more depth.

First, we investigate how robust is the positive correlation between the job satisfaction of females and the female share of the workplace using alternative US data. We find strong evidence of such a partial correlation. Second, and

[1] Blau and Kahn (1996) provide estimates of the gender earnings gap for a variety of major industrialized countries. They range from 18.5% in Sweden to 37.5% in Switzerland.

[2] Recent evidence for the US suggests that occupational segregation of women is attributable for approximately one-third of the total gender wage differential (Baldwin *et al.*, 2001).

more fundamentally, we explore the cause of the relationship between female job satisfaction and the female share of the workplace, finding that it arises from a strong gender specific pattern of sorting based on the 'flexibility' of the job to accommodate family issues. Once this flexibility is accounted for the role of gender composition in the job satisfaction of both men and women vanishes. We suggest that flexibility is a crucial element in the bundle of job characteristics that appeal to women and that it plays an important role explaining the relationship between job satisfaction and gender segregation.

In what follows, the next section reviews the research on gender and job satisfaction emphasizing the evidence from both economics and social psychology that women value different job characteristics than do men. Section 3 describes the data and discusses our methodology. Section 4 presents our evidence on the role of gender composition. Section 5 uses unique questions in the data to control for the flexibility provided by each job. Section 6 concludes and suggests directions for future research and policy.

2. Gender and job satisfaction

Hamermesh (2001, p.2) makes clear why economists should study the determinants of job satisfaction: 'Only one measure, the satisfaction that workers derive from their jobs, might be viewed as reflecting how they react to the entire panoply of job characteristics. Indeed, a potentially useful view is that job satisfaction is the resultant of the worker's weighting in his/her own mind of all the job's aspects. It can be viewed as a single metric that allows the worker to compare the current job to other labour-market opportunities.' Hence, job satisfaction is a more global measure allowing economists to get closer to the fundamental concept of the aggregate well-being generated from a job, a concept that may be poorly proxied by earnings. While such self-reported measures of satisfaction have been criticized as subjective, Blanchflower and Oswald (1999) explain that such measures have been successfully used for years by social psychologists and that they do correlate in expected fashions with many objective outcomes. For example, workers with lower self-reported job satisfaction have higher absenteeism and are more likely to quit (Clark *et al.*, 1998). Further, higher job satisfaction within a firm correlates positively with its performance (Ostroff, 1992) and, within the service industries, job satisfaction correlates positively with customer satisfaction (Rogers *et al.*, 1994).

The renewed interest by economists in job satisfaction has yielded a series of reasonably consistent and robust findings. Job satisfaction is higher for the youngest and oldest workers (Clark *et al.*, 1998), for non-union workers (Clark, 1997; Bender and Sloane, 1998; Heywood *et al.*, 2002), and for the less educated (Clark and Oswald, 1996).[3] Yet, the issue attracting the most attention has been

[3] See Bryson *et al.* (2004) for evidence that union members may not have lower job satisfaction.

the role of gender as a determinant of job satisfaction. The issue has been examined in dozens of countries including not only those in Europe and North America cited earlier but also in Kenya (Mulinge and Mueller, 1998), China (Loscocco and Bose, 1998), and Kuwait (Metle, 2001). Research within occupations has found women to be more satisfied than their otherwise equal male counterparts as clergy (McDuff, 2001), scientists (Dhawan, 2000), attorneys (Hull, 1999), and doctors (Bashaw, 1999). Indeed, this repeated finding has been summarized as 'the paradox of the contented female worker'.[4]

The so-called paradox arises because the apparent job satisfaction of women seems at odds with their lower adjusted earnings, lower chances for employer provided training (at least in the US—see Lynch, 1992), and lower adjusted probabilities of receiving pensions and health insurance (Heywood, 1989). Yet, the job characteristics valued by women and men have repeatedly been shown to differ. As a general rule, women place less value on remuneration. Clark (1997) shows that women are significantly less likely to identify earnings as the most important aspect of a job. Moreover, he shows that those workers who identify earnings as the most important aspect have lower overall job satisfaction. On the other hand, Clark shows women are significantly more likely to identify social relations at work as the most important aspect of a job and that this identification correlates with higher job satisfaction. Sloane and Williams (2000) for the UK and Donohue and Heywood (2004) for the US indicate that higher earnings add more to the job satisfaction of men than to that of women. In addition, higher comparison earnings, the average earnings of otherwise equal workers, reduce male job satisfaction more than female job satisfaction. Finally, increased usual hours of work are often associated with lower job satisfaction of women but not of men. Konrad *et al.* (2000) perform a meta-analysis of 31 studies in the field of organizational behaviour examining the relative preference by gender of job attributes. They conclude that men consider earnings and responsibility to be more important then do women. On the other hand, they conclude that women consider good co-workers, a good supervisor, and the significance of the task to be more important than men do.

These studies suggest that men and women make occupation and workplace choices based on different preferences over job attributes.[5] Thus, the extent of gender segregation might proxy for these underlying job attributes.[6] In other words, the higher job satisfaction of women in female dominated jobs exists only because those jobs have unmeasured characteristics that women value.

[4] Indeed, this term has made it into the title of several studies—see Hull (1999) and Parks *et al.* (1995).

[5] The extent to which differences in preferences result from gender socialization remains an open question. Perlman and Pike (1994) identify such gender socialization as 'pre-market discrimination' meaning the resulting preferences would be taken as given even by a non-discriminatory labour market.

[6] This obviously does not necessitate that the full extent of gender segregation as identified by Bielby and Baron (1984) or by Wootton (1997) results from differences in preferences.

As an alternative, the extent of segregation may itself be considered a job attribute over which workers have preferences. Given incomplete information on the full set of job attributes, most evidence necessarily conflates the role of segregation *per se* and its role as a proxy for job characteristics. Nonetheless, Tsui *et al.* (1992) find that the job satisfaction of male workers decreases with the proportion of females in their work group, and Sloane and Williams (2000) find that the job satisfaction of UK women is significantly lower in 'male dominated workplaces'. Clark (1997) presents very similar evidence also for the UK, finding that the gender satisfaction gap increases with the extent of females in the workplace, a result that flows from the greater satisfaction of women in more female dominated workplaces.

While there exists evidence that workers' job satisfaction is greater in work groups largely of the same gender, we recognize that the factors influencing the gender composition of a work group may be complex. Theoretical work in economics has addressed the issue of the optimal size of a minority within a work-group. The optimization typically recognizes a productivity interaction between groups, such as communication within homogenous groups is superior, or a preference interaction, where one or more groups receive disutility from working with a minority (Rapoport and Weiss, 2001). Firms themselves may desire a particular gender (or racial) composition in order to appeal to potential customers. Thus, banks may wish the composition of employees in the lobby to roughly match those of their customers (Kim and Squires, 1996). Social psychologists have also measured the influence of work group gender composition on the commitment and on the effectiveness (productivity) of the group.[7]

In what follows we present new evidence on the relationship between gender composition and job satisfaction. More importantly we identify the critical work and family flexibility variables that drive that relationship. This identification fits with the findings that a major reason women choose self-employment is for family flexibility (Lombard, 2001) and that women take careers that allow such flexibility and that this flexibility explains, at least in part, their lower earnings (Hundley, 2001). We conclude from our evidence that gender composition does not influence job satisfaction after accounting for flexibility.

3. Data and methodology

We specify estimating equations from a representative US sample, the National Study of the Changing Workforce (NSCW) conducted in 1997. We limit the sample to those workers not in the military and not self-employed for which responses to all the relevant variables are present. The eventual working sample size from the NSCW is 1854.

[7] In one such study, Knouse and Dansby (1999) conclude that the optimal female composition is between 11 and 30%.

The NSCW provides a four-point scale of overall job satisfaction (from not satisfied at all to very satisfied). The average job satisfaction for men is 3.35 while it is 3.42 for women. We follow the convention of examining the determinants of the probability of reporting each level of job satisfaction. The underlying latent variable is assumed to follow a cumulative normal, and the determinants are estimated by maximum likelihood using an ordered probit procedure (McKelvey and Zavonia, 1975). The estimated coefficients and cut-points will be used to predict the influence of gender composition on job satisfaction.

The controls largely follow the economics literature on job satisfaction including demographics, employment relations, industrial and regional dummies, and human capital variables. These are outlined in Table 1.

The critical independent variable on gender composition is built from the relevant survey question. The NSCW asks each respondent to identify the percentage of their immediate work group that shares both their gender and race. The responses are one of six categories: 0%, 1–25%, 26 to 50%, 51 to 75%, 76 to 99%,

Table 1 Descriptive statistics and definitions: 1997 NSCW

Variable	Definition (mean, std. dev.)
Female	Equals 1 if respondent is female (0.487, 0.499)
Hours	Natural log of usual hours worked by respondent (3.6, 0.304)
Wage	Natural log of respondent's hourly earnings in USD (2.54, 0.738)
High school	Equals 1 if respondent's education ended with high school graduation (0.292, 0.455)
Some college	Equals 1 if respondent's education ended with some college but no degree (0.259, 0.438)
Associate degree	Equals 1 if respondent's education ended with an associate degree (usually a two year course) (0.080, 0.271)
Bachelor degree	Equals 1 if respondent's education ended with a bachelor degree (0.216, 0.412)
Advanced degree	Equals 1 if respondent completed an advanced degree (0.106, 0.308)
Tenure	Respondent's years of tenure with current employer (7.25, 8.01)
Size100	Equals 1 if respondent's establishment employs between 100 and 500 workers (0.269, 0.444)
Size500	Equals 1 if respondent's establishment employs between 500 and 1000 workers (0.232, 0.421)
Size1000	Equals 1 if respondent's establishment employs more than 1000 workers (0.100, 0.300)
Age	Respondent's years of age (39.7, 11.7)
Union	Equals 1 if respondent is currently a union member (0.151, 0.357)
Temp job	Equals 1 if respondent's current job is temporary (0.048, 0.213)
Pension	Equals 1 if respondent reports having an employer provide pension (0.743, 0.437)
Health	Equals 1 if respondent reports no health impairments (0.843, 0.364)
Time control	Equals 1 if respondent answers positively that she has some control over starting and finishing times of tasks (0.452, 0.497)
Industry	One digit controls
Regions	Dummy variables identifying seven regions within the United States

Table 2 Job satisfaction and gender composition in the NSCW

Male	0% female	Between 0–25% female	Between 25–50% female	Between 50–75% female	Between 75–100% female	Sample size
Not at all						
1	0.008	0.008	0.014	0.015	0.000	9
2	0.078	0.075	0.067	0.108	0.099	73
3	0.341	0.502	0.505	0.441	0.455	402
Very						
4	0.574	0.415	0.413	0.436	0.446	390
Sample size	129	241	208	195	101	

Female	Between 0–25% female	Between 25–50% female	Between 50–75% female	Between 75–100% female	100% female	Sample size
Not at all						
1	0.022	0.029	0.019	0.010	0.018	17
2	0.101	0.082	0.043	0.038	0.061	54
3	0.449	0.439	0.464	0.436	0.335	403
Very						
4	0.427	0.450	0.473	0.516	0.585	471
Sample size		89	171	207	314	164

and 100%. Obviously, the fact that gender and race are combined in this question makes its use less straightforward, but we help isolate the influence of gender by limiting all estimates to a subsample of white employees. Thus, the responses identify for each worker the share of their immediate group that is white female, for women, and white male, for men. These are recoded into a series of five dummies identifying for each worker the share of their work group that is white male. There are no women in the 100% male category, and there are no men in the 0% male category. As a consequence, the separate estimations by gender exclude these categories. Thus, the estimates for each gender involve four dummies identifying the gender composition of the workgroup.[8]

The distribution across the categories of job satisfaction can be compared by gender. From the final column of Table 2, women in the NSCW are more likely to be represented in the most satisfied category 4 and less likely to be represented in

[8] The inclusion of race in the original NCSW question generates an errors-in-variables problem as the percentage white male is a lower bound on the percentage male estimated with an unknown error. As a first approximation, this structure might be expected to simply bias standard errors toward no result. Moreover, the extent of variation in gender composition far exceeds the extent of variation in racial composition, and it is the former variation that can be expected to drive the results in a sample of whites. As an illustration, the gender composition variables generated from the NSCW emerge with the expected partial correlations in earnings equations: the higher the share female the lower the earnings, all else being equal. If, instead, the composition variable mainly picked up the influence of being white, we would anticipate a positive partial correlate with wages.

the less satisfied category 2. In tests of difference of proportions within each category, both of these differences are statistically significant at the 1% level. The gender differences in categories 1 and 3 are statistically insignificant.[9] A 'goodness of fit' test across all the satisfaction categories in the NCSW has a value of 21.4 with 3 degrees of freedom rejecting the hypothesis that the distributions are identical for each gender.[10]

4. Results

Table 2 presents the observations arrayed by job satisfaction and gender composition. This presentation reveals the basic pattern. The share of female workers in the NSCW reporting being 'very satisfied' increases monotonically as the share of males in the workplace declines. At issue is whether this pattern persists when controlling for other determinants of job satisfaction.

As an initial examination, we establish that the broad confines of our data generate results similar to those already shown in the literature. We estimate a standard job satisfaction equation in the first column of Table 3. Here the explanatory variables include gender, education, tenure, age, union status, marital status, establishment size, various job characteristics, as well as industrial and regional dummies. The basic tenor of the results closely follows those in the literature. Job satisfaction increases with earnings and decreases with hours.[11] Job satisfaction is lower for the more highly educated and for those working in larger firms. Those with health insurance and those with a pension report higher job satisfaction. There is a suggestion that tenure and age tend to follow a U-shaped pattern. Each of these results confirms general findings in the literature. Most critically, despite three dozen controls, women report significantly higher job satisfaction, holding all other variables constant.

Estimating the results separately by gender reveals substantial differences. As shown in columns 2 and 3 of Table 3, the job satisfaction of men increases with additional earnings while that of women does not. This difference mimics earlier studies by indicating the greater importance of earnings in determining the job satisfaction of men. The coefficient on hours is negative for both men and women but is not significant for women. The significant negative coefficients generated on higher education in the full sample are largely generated from the male

[9] These are pair wise comparisons of the genders difference in the proportion within a single category as opposed to all other categories and are available from the authors upon request.

[10] The test statistic is distributed chi-squared and equals $\sum_{i=1}^{n}(o_i - e_i)^2/e_i$ where o_i is the observed number of female observations in satisfaction category i and e_i is the expected number of observations in category i if e_i the female proportion in that category was identical to the male proportion in that category (Walpole, 1974, p.223).

[11] The absence of a highly significant positive coefficient for hourly earnings would not surprise Groot and Maassen van den Brink (1999) who claim that many empirical studies fail to find that higher wages lead to more job satisfaction, *ceteris paribus*.

Table 3 Basic job satisfaction estimates (NSCW)

Variables	Full sample	Women	Men
Female	0.1435** (2.217)		
Hours	−0.2681** (2.154)	−0.1833 (1.139)	−0.3645* (1.953)
Wage	0.0809* (1.883)	−0.0337 (0.604)	0.2050** (3.072)
High school	−0.2250 (1.589)	−0.1597 (0.797)	−0.2947* (1.489)
Some university	−0.2780* (1.934)	−0.2183 (1.082)	−0.3480* (1.733)
Associate degree	−0.2319 (1.415)	−0.2237 (0.974)	−0.2886 (1.233)
Bachelor degree	−0.3411** (2.299)	−0.2361 (1.129)	−0.4727** (2.310)
Advanced degree	−0.4192** (2.513)	−0.2755 (1.201)	−0.5763** (2.422)
Tenure	−0.0108 (0.957)	0.0104 (0.677)	−0.0291* (1.710)
Tenure squared	0.0008* (1.916)	0.0001 (0.067)	0.0013** (2.122)
Size100	−0.1431* (1.955)	−0.2357** (2.287)	−0.0851 (0.789)
Size500	−0.2841** (3.662)	−0.2634** (2.386)	−0.3181** (2.900)
Size1000	−0.2898** (2.861)	−0.3615* (2.414)	−0.2354* (1.640)
Age	−0.0015 (0.085)	−0.0361 (1.688)*	0.0201 (0.809)
Age squared	0.0001 (0.388)	0.0004 (1.536)	−0.0001 (0.313)
Union	−0.1322 (1.514)	−0.0731 (0.580)	−0.1812 (1.421)
Temp job	−0.2539 (1.477)	0.2143 (0.887)	−0.5543** (2.370)
Pension	0.1826** (2.264)	0.2037* (1.851)	0.1389 (1.140)
Health	0.2227** (2.230)	0.2166 (1.634)	0.2608* (1.733)
Time control	0.3111** (5.236)	0.4150** (4.817)	0.2598** (3.046)
MU(1)	−2.854** (5.392)	−3.348** (4.410)	−2.695** (3.08)
MU(2)	−1.998** (3.954)	−2.693** (3.314)	−1.671* (1.779)
MU(3)	−0.4716 (1.159)	−1.1196 (1.324)	−0.0786 (0.249)
N	1,819	945	874
Chi-squared	118.4**	63.6**	110.1**

Note: The regressions include both industry and occupation dummies. Using a likelihood ratio test on adding a full set of gender interactions allows us to reject the hypothesis that the regimes are the same across gender ($\chi^2 = 49.9$, p-val = 0.042).

*Statistically significant at the 10% level, **Statistically significant at the 5% level.

subsample. The negative association between job satisfaction and firm size is disproportionately generated from the female subsample. Further, men appear to disproportionately dislike temporary jobs while women seem to disproportionately value control over starting times.

We now add the self-reported measures of gender composition that are specific to the individual's workplace. All of the other controls included in the previous estimations are retained and behave very similarly. Table 4 summarizes the results. As the first column shows, the female dummy variable in the NCSW continues to attract a weakly significantly positive coefficient. The separate estimations by gender show a contrasting pattern. The coefficients in the female estimation show a monotonically increasing pattern with job satisfaction higher as the share of women increases. The two coefficients for the highly female workplaces take statistically significant coefficients as well. The male equation suggests the pattern evident in the combined estimation. Those in the extremes report higher job satisfaction with the nearly all female workplaces insignificantly different from

Table 4 Job satisfaction estimates with gender composition included

Variables	Full sample	Women	Men
Female	0.1156* (1.640)		
100% female	0.0515 (0.303)	0.3483** (2.025)	
75–100% female	−0.1672 (1.148)	0.2476* (1.689)	−0.2580 (1.476)
50–75% female	−0.2821** (1.968)	0.1237 (0.794)	−0.2889* (1.824)
25–50% female	−0.3315** (2.351)	0.0774 (0.487)	−0.3305** (2.139)
0–25% female	−0.3229** (2.329)	−0.2675*(1.805)	
0% female			
N	1819	945	874
Chi-squared	135.5**	70.0**	126.4**

Note: All the controls listed in Table 3 are included in these estimations.
*Statistically significant at the 10% level, **Statistically significant at the 5% level.

Table 5 Projected probabilities of job satisfaction for women

	Level of satisfaction			
	1	2	3	4
100% female	0.012	0.043	0.377	0.568
75–100% female	0.015	0.052	0.405	0.528
0–25% female	0.027	0.082	0.459	0.432

Note: These projections hold all other controls at their mean levels while altering the gender composition. Projections are shown for the base category and all other categories that take significantly different coefficients. The projections follow the coefficient estimates from the regressions in Table 4.

the all male workplaces. Nonetheless, the basic pattern for the men seems to be that there is higher job satisfaction in the exclusively male workplaces than in any other and that there are few differences in satisfaction between all the other workplace compositions. The failure to find a uniform influence on male job satisfaction might fit with those that have theorized that men do not dislike working with women but may dislike working for a women (Baldwin *et al.*, 2001).[12]

The pattern of results in Table 4 is not only statistically significant, but the estimated magnitudes are also meaningful. Table 5 takes all of the controls at their mean levels with the exception of the gender composition variables. Using the estimated cut-points, the predicted probabilities of reporting each level of satisfaction are projected. These come from the gender specific estimations reported in Table 4. The estimated job satisfaction is substantially larger in the

[12] Note that because the two extremes, all female and all male, are collinear with the female dummy, that dummy is limited to take a value of one when the respondent is a female in a mixed gender workplace.

most female dominated workplaces. In the NSCW, the most female category consists of 57% at the highest satisfaction level compared to 43% in the least female category.[13]

A variety of alternative specifications were estimated to confirm that the basic patterns presented were robust.[14] Estimating wage equations by gender, a predicted wage for each worker was included in the job satisfaction equations as a 'comparison wage' (Clark and Oswald, 1996). This was replicated using a single wage equation for both genders and the relevant predictions being included as a comparison wage. Neither alteration changed the pattern presented.[15]

5. Flexibility, working conditions, and job satisfaction

Deardorff and Stafford (1976) examine a team production environment where workers give up flexibility and must cooperate in terms of work times, effort, and conditions. They demonstrate that compensation will necessarily be higher in this environment than in one in which workers retain flexibility. Empirical researchers have taken the view of team production as foregone flexibility showing that workers engaged in team production earn more, other things equal (Idson, 1995). Moreover, Heywood and Jirjahn (2002) show that women sort away from team production in order to retain flexibility between home and work. Thus, the estimated relationship between job satisfaction and gender composition might merely reflect women sorting into jobs that provide flexibility. The flexibility provides satisfaction for women, not the share of women in the job.

We follow the recognition by Blau *et al.* (2002, pp. 360–1), that flexibility includes both the formal policies of a firm and the informal 'culture' of the firm as manifested by attitudes toward, and individual accommodations for, worker needs. The NSCW asks a wide range of questions designed to isolate the flexibility allowed by each worker's job and, in particular, the extent to which the demands of the job come at cost of family responsibilities. Four questions directly probe the use of time and the extent to which jobs provide flexibility in work scheduling to meet family responsibilities. For example, they were asked 'how hard is it for you to take time off during your work day to take care of family matters?' One question

[13] Table 5 presents projections only for those gender composition categories with satisfaction levels significantly different from that of the base category.

[14] Although this study examines US data, analysis by the authors of the British Household Panel Survey (BHPS) shows a similar pattern of gender segregation influencing job satisfaction. Unfortunately, the BHPS does not include information on job flexibility, so we cannot test whether the increased job satisfaction by women in predominantly female jobs is caused by more flexibility in those jobs.

[15] Following Clark (1997) occupational dummies were used to identify the wage equations. Also the occupational dummies were placed directly in the estimations when the comparison wage was excluded and the pattern on the indicators of gender composition does not change. All of these estimations are available upon request. McBride (2001) details past attempts to confirm the role of comparison earnings and isolates econometric issues involved in using a predicted comparison wage. An alternative might be to import a predicted wage for a narrowly defined reference group from a different data set.

Table 6 Flexibility variables from the NSCW (means by gender)

Flexibility variables	
Sup. accommodates	'My supervisor accommodates me when I have family or personal business to take care of—for example, medical appointments, meeting with a child's teacher, etc.' Equals one if strongly agree, zero otherwise—(Means: Female 0.688, Male 0.641)
Flex. hurts	'At my place of work, employees who ask for time off for family reasons or try to arrange different schedules or hours to meet their personal or family needs are LESS likely to get ahead in their jobs or careers.' Equals one if strongly disagree, zero otherwise—(Means: Female 0.331, Male 0.320)
Off sick	'Are you allowed to take a few days off to care for a sick child without losing pay, without using vacation days, AND without having to make up some other reason for your absence, or not?'—Equals one if yes, zero otherwise (Means: Female 0.202, Male 0.242)
Off hard	'How hard is it for you to take time off during your work day to take care of personal or family matters?'—Equals one if not hard at all, zero otherwise—(Means: Female 0.338, Male 0.367)
Family or job	'At my place of employment, employees have to choose between advancing in their jobs or devoting attention to their family or personal lives.' Equals one if strongly disagree, zero otherwise—(Means: Female 0.432, Male 0.321)

goes beyond scheduling to ask for a broader evaluation of the sum of formal and informal policies designed to provide flexibility. Respondents were asked to agree or disagree with the statement, 'At my place of employment, employees must choose between advancing in their job or devoting attention to their family or personal lives'. The definitions of the flexibility measures are detailed in the Table 6.[16] In some cases the responses were given in a Likert scale that we truncate to dichotomous as explained. A value of one corresponds to a job with more flexibility.

Table 6 also shows the mean responses to each of the five questions separately by gender. Despite the fact that men earn substantially more and are disproportionately in jobs often considered 'better,' it appears that the jobs of women are at least as flexible.[17] The means of the variables are often similar across genders

[16] We retain a narrow focus on flexibility but note that a broader focus might include some of NSCW questions that ask about the worker's autonomy. Thus, the more freedom workers have to design their own work and working schedules, the greater flexibility they have in meeting competing demands of work and home (Lombard, 2001). In estimations available from the authors we included four measures of autonomy with no change in the results that we present using the narrower focus. In general, we searched for all questions that measured the extent of flexibility and include all of those we identified.

[17] Assuming flexibility is a normal good, if men value it as much as women, one might anticipate that men should have (consume) more of all attributes of flexibility. In short, men would purchase more flexibility from their higher average earnings.

Table 7 Job satisfaction with scheduling flexibility measures

Variables	Full sample	Women	Men
Female	0.1360* (1.878)		
100% female	0.0585 (0.345)	0.1839 (1.074)	
75–100% female	−0.0833 (0.568)	0.1698 (1.153)	−0.1381 (0.774)
50–75% female	−0.1221 (0.857)	0.1444 (0.926)	−0.1379 (0.888)
25–50% female	−0.1966 (1.407)	0.1170 (0.739)	−0.2285 (1.518)
0–25% female	−0.1982 (1.428)		−0.1560 (1.063)
Sup. accommodates	0.5733** (9.193)	0.5740** (6.423)	0.6031** (6.744)
Flex. hurts	0.4275** (6.419)	0.5168** (5.466)	0.3621** (3.738)
Off sick	0.2400** (3.349)	0.2919** (2.864)	0.2075** (2.032)
Off hard	0.2597** (3.943)	0.2891** (2.958)	0.2207** (2.373)
N	1,819	945	874
Chi-squared	302.2**	167.9**	200.8**

Note: All controls listed in Table 6 are included in these estimates.
*Statistically significant at the 10% level, **Statistically significant at the 5% level.

with three of five showing larger means for the women. Each of the indicators of flexibility would be anticipated to improve job satisfaction, and we now test that anticipation by reproducing the ordered probit estimates including the indicators.

Table 7 includes indicators except the last and most general summary question of whether the workplace requires a choice between job and family. In the first column, which includes both genders, all of the indicators take a coefficient of the expected positive sign and all are statistically significant. The coefficients are large indicating that workers place a high value on flexibility. The controls used in Table 6 are included but not shown as the general pattern is identical to that already identified. However, the coefficients on the gender composition variables show a profound change. The coefficients are only a fraction of their size in the absence of the flexibility indicators and none of the coefficients are statistically significant. The dummy variable for female continues to show weak statistical significance indicating women are more satisfied. The second and third columns repeat the estimate separately for women and men continuing to reveal the importance of flexibility but indicating only modest differences by gender. None of the gender composition coefficients retain significance in either of the gender specific estimations.

We now add the summary variable on whether or not the workplace requires workers to choose between job and family. As a major reason women desire flexibility is to fulfil household responsibilities, this can be thought of as a specific element of flexibility that may be valued differently by men and women. The first column of Table 8 shows that it is a significant positive determinant of job satisfaction in the combined estimation. It remains the case that none of the gender composition coefficients retain significance. Importantly, inclusion of this last variable causes the gender coefficient to drop in size and for the first time to not

Table 8 Job satisfaction with all flexibility measures

Variables	Full sample	Women	Men
Female	0.1064 (1.456)		
100% female	0.0438 (0.256)	0.1933 (1.114)	
75–100% female	−0.0595 (0.400)	0.1708 (1.119)	−0.1248 (0.698)
50–75% female	−0.1015 (0.701)	0.1723 (1.082)	−0.1337 (0.859)
25–50% female	−0.1630 (1.144)	0.1595 (0.982)	−0.2190 (1.447)
0–25% female	−0.1681 (1.186)		−0.1456 (0.990)
Sup. accommodates	0.5387** (8.518)	0.5245** (5.805)	0.5932** (6.515)
Flex. hurts	0.3389** (4.875)	0.3692** (3.804)	0.3382** (3.326)
Off sick	0.2255** (3.120)	0.2802** (2.693)	0.2026** (1.984)
Off hard	0.2475** (3.719)	0.2684** (2.713)	0.2185** (2.344)
Family or job	0.3641** (5.382)	0.6310** (6.847)	0.0912 (0.911)
N	1,819	945	874
Chi-squared	342.0**	215.3**	204.4**

Note: All controls listed in Table 6 are included in these estimates.
*Statistically significant at the 10% level, ** Statistically significant at the 5% level.

remain statistically significant. Thus, when the full set of flexibility variables are included, there is no evidence that gender composition influences job satisfaction and no evidence that gender influences job satisfaction.

The remaining two columns reproduce the estimates separately by gender. The most prominent result is that women receive a large and highly significant increment in job satisfaction when employed in jobs that do not force them to choose between their jobs and family and that men receive no significant increase in job satisfaction when employed in those same jobs. Indeed, the value placed by women on the indicators of flexibility is dramatic. The addition of the flexibility indicators increases the explanatory power of the female job satisfaction equation by threefold as measured by the pseudo r-squared.[18] Moreover, despite the similarity and high correlations between the measures of flexibility, they all are individually important with four of the five coefficients larger in the female estimation.[19]

Again, crucial for the current discussion is the absence of an influence from gender composition. The coefficients that were previously significant decline by 44 and 24%, respectively, and the very pattern of the coefficients reverses.[20] In short, there is little support for the hypothesis that the share of women *per se* is a determinant of job satisfaction. Instead, the results are consistent with women sorting into jobs with flexibility. Our initial partial correlations with the female

[18] The pseudo *r*-squared measure is the likelihood ratio index and its value in the original female estimation in Table 7 was 0.049 and after adding the flexibility variables it is 0.147.

[19] The correlation table is available upon request.

[20] The coefficient on the 100% female dummy drops from 0.35 in Table 7 to 0.19 in Table 8 and the coefficient on the 75 to 100% female dummy drops from 0.25 to 0.17.

share (and perhaps those of others in the literature) are a function of not controlling for this sorting.

6. Conclusion

The explanation for higher female job satisfaction by Clark (1997) and others is that women have lower expectations about labour market outcomes and so are more easily satisfied with their actual experience. Yet, this argument suggests that the expectations of women do not adapt to actual experience. They supposedly retain lowered expectations despite an average of roughly seven years of tenure in the NSCW. Moreover, the evidence presented shows that job satisfaction of women is highest in the traditionally female dominated work places, the very places in which women as a whole have the most experience and should have the most accurate expectations.

It may be that the literature's notion of 'expectations' is that of social norms. Under such an interpretation women may be socialized not to anticipate much satisfaction from work and are thus surprised by the actual experience. This still leaves open why the social norms are so persistent given the reality. In addition, Clark (1997, p.342) argues lower expectations of women 'likely result from the poorer position in the labour market that women have held in the past. As the difference between men's and women's jobs is eroded so will the gender difference in expectations and job satisfaction.' Thus, Clark, who emphasizes the importance of expectations, sees them as rooted in dated and inaccurate information.

We suggest that much of the satisfaction difference associated with segregation results from the exclusion of determinants of satisfaction. These determinants, flexibility between work and home, appear to be of greater value to women and when accounted for eliminate satisfaction differences associated with gender composition. These results suggest that policies which mandate changes in gender composition or equality in the bundles of job attributes associated with gender composition (including earnings) could lower the job satisfaction of both men and women. As an illustration from our results, lowering men's earnings and not forcing them to choose between home and work reduces their job satisfaction. Similarly, providing women with additional earnings but forcing them to choose between home and work reduces their job satisfaction (as an additional dollar of earnings adds far less to female job satisfaction).

While not as extreme as these illustrations, public policy has become increasingly focused on mandating 'family friendly' workplaces. In the US, the 'Take Care Network' is a coalition supporting increased family leave for care giving and increased opportunities for flexible scheduling and job sharing (see www.takecarenet.org). In the UK, a government Commission (Bain, 2001) recommended giving working parents with children the right to require their employer to provide a flexible working pattern. This recommendation was accepted by the government which believes it will create 'a transformation in culture of the workplace' (DTI, 2001, p.3). To the extent that this legislates increased flexibility, our results

suggest it may be more valuable to women and may reduce the extent of segregation created by women seeking more flexible employment. Note, however, that men who avoided flexibility to seek higher earnings, may well be worse off as the flexibility between work and home responsibilities is less valuable to them and may come at a cost of reduced earnings. These reduced earnings would follow if the provision of flexible arrangements is costly to firms that did not previously offer them (see Heywood *et al.*, 2001). Thus, policies to promote flexibility may have the consequence of a economic transfer between genders.

References

Anker, R. (1997) Theories of occupational segregation by sex: an overview, *International Labour Review*, **136,** 315–49.

Bain, G. (2001) *About Time: Flexible Working*, Work and Parents Taskforce, London.

Baldwin, M., Butler, R., and Johnson, W. (2001) A hierarchical theory of occupational segregation and wage discrimination, *Economic Inquiry*, **39,** 94–110.

Bashaw, D. (1999) Gender earnings and job satisfaction: the case of US physicians, Ph.D. Dissertation, UMI Number 9916558, University of Wisconsin, Milwaukee.

Bender, K.A. and Sloane, P.J. (1998) Job satisfaction, trade unions, and exit-voice revisited, *Industrial and Labor Relations Review*, **51,** 222–41.

Bielby, W. and Baron, J. (1984) A woman's place is with other women: sex segregation within organizations, in B. Reskin (ed.), *Sex Segregation in the Workplace*, National Academy of Science, Washington, 27–55.

Blanchflower, D. and Oswald, A. (1999) Well-being, insecurity and the decline of American job satisfaction, Working Paper, Department of Economics, Dartmouth College, Hanover, NH.

Blau, F., Ferber, M., and Winkler, A. (2002) *The Economics of Women, Men and Work,* 4th edition. Prentice Hall, Upper Saddle River, NJ.

Blau, F. and Kahn, L. (1996) Wage structure and gender earnings differentials: an international comparison, *Economica*, **63,** S39–S62.

Bryson, A., Cappellari, L., and Lucifora, C. (2004) Does union membership really reduce job satisfaction, *British Journal of Industrial Relations*, **42,** 439–59.

Clark, A. (1997) Why are women so happy at work? *Labour Economics*, **4,** 341–72.

Clark, A., Georgellis, Y., and Sanfey, P. (1998) Job satisfaction, wage changes and quits: evidence from Germany, *Research in Labor Economics*, **17,** 95–122.

Clark, A. and Oswald, A. (1996) Satisfaction and comparison income, *Journal of Public Economics*, **61,** 359–81.

Deardorff, A. and Stafford, F. (1976) Compensation of cooperating factors, *Economica*, **44,** 671–84.

Dhawan, S. (2000) Work climate and gender: why are women scientists so satisfied at work? *Journal of Scientific and Industrial Research*, **59,** 121–31.

Donohue, S. and Heywood, J. (2004) Job satisfaction, comparison income and gender: evidence from the NLSY, *International Journal of Manpower*, **25,** 211–34.

DTI. (2001) *Government Response to Recommendations from the Work and Parents Taskforce*, Department of Trade and Industry, London.

Groot, W. and Maassen van den Brink, H. (1999) Job satisfaction and preference drift, *Economics Letters*, **63,** 363–67.

Hamermesh, D. (2001) The changing distribution of job satisfaction, *The Journal of Human Resources*, **36,** 1–30.

Heywood, J. (1989) Discrimination in the provision of fringe benefits, *Economics Letters*, **31,** 242–5.

Heywood, J. and Jirjahn, U. (2002) Payment schemes and gender in Germany, *Industrial and Labor Relations Review*, **56,** 44–64.

Heywood, J., Siebert, W.S., and Wei, X. (2001) The supply and demand of family friendly work practices, Working Paper, Department of Commerce, University of Birmingham.

Heywood, J., Siebert, W.S., and Wei, X. (2002) Job satisfaction and sorting: the role of government and union jobs? *Industrial and Labor Relations Review*, **55,** 595–609.

Hull, K. (1999) The paradox of the contented female lawyer, *Law and Society Review*, **33,** 687–702.

Hundley, G. (2001) Why women earn less than men in self-employment, *Journal of Labor Research*, **22,** 817–30.

Idson, T. (1995) Team production effects on earnings, *Economic Letters*, **49,** 197–203.

Johnson, G. and Solon, G. (1996) Estimates of the direct effects of comparable worth policy, *American Economic Review*, **76,** 1117–25.

Kidd, M. and Goninon, T. (2000) Female concentration and the gender wage differential in the United Kingdom, *Applied Economics Letters*, **7,** 337–40.

Kim, S. and Squires, G. (1996) Does anybody who works here look like me? Mortgage lending, race and lender employment, *Social Science Quarterly*, **76,** 821–838.

Knouse, S. and Dansby, M. (1999) Percentage of work-group diversity and work-group effectiveness, *Journal of Psychology*, **133,** 486–94.

Konrad, A., Corrigall, E., Lieb, P., and Ritchie, J. (2000) Sex differences in job attribute preferences among managers and business students, *Group and Organization Management*, **25,** 108–31.

Lombard, K.V. (2001) Female self-employment and demand for flexible, nonstandard work schedules, *Economic Inquiry*, **39,** 214–37.

Loscocco, K. and Bose, C. (1998) Gender and job satisfaction in urban China: the early post-Mao period, *Social Science Quarterly*, **79,** 91–109.

Loscocco, K. and Spitze, G. (1991) The organization context of women's and men's pay satisfaction, *Social Science Quarterly*, **72,** 3–19.

Lynch, L. (1992) Private-sector training and the earnings of young workers, *American Economic Review*, **82,** 299–312.

McBride, M. (2001) Relative-income effects on subjective well-being in the cross-section, *Journal of Economic Behavior and Organization*, **45,** 251–78.

McDuff, E. (2001) The gender paradox in work satisfaction and the protestant clergy, *Sociology of Religion*, **62,** 1–21.

McKelvey, R. and Zavonia, W. (1975) A statistical model for the analysis of ordinal level dependent variables, *Journal of Mathematical Sociology*, **4,** 102–20.

Metle, M. (2001) Education, job satisfaction and gender in Kuwait, *International Journal of Human Resource Management*, **12,** 311–32.

Millward, N. and Woodland, S. (1995) Gender segregation and male/female wage differences, Centre for Economic Performance Discussion Paper No. 220, London School of Economics.

Mulinge, M. and Mueller, C. (1998) Employee job satisfaction in developing countries: the case of Kenya, *World Development*, **26,** 2181–99.

Ostroff, C. (1992) The relationship between satisfaction, attitudes and performance: an organizational level analysis, *Journal of Applied Psychology*, **77,** 963–74.

Parks, J., Russel, R., Wood, P., Roberton, M., and Sheworkis, P. (1995) The paradox of the contented working woman in intercollegiate athletics administration, *Research Quarterly in Exercise and Sport*, **66,** 73–9.

Perlman, R. and Pike, M. (1994) *Sex Discrimination in the Labor Market: The Case for Comparable Worth*. Manchester University Press, Manchester.

Rapoport, H. and Weiss, A. (2001) The optimal size of a minority, Working Paper, Department of Economics, Bar-Ilan University, Israel.

Rogers, J., Clow, K., and Kash, T. (1994) Increasing job satisfaction of service personnel, *Journal of Service Management*, **8,** 14–26.

Sloane, P.J. and Williams, H. (2000) Job satisfaction, comparison earnings and gender, *Labour*, **14,** 473–502.

Sousa-Poza, A. and Sousa-Poza, A. (2000) Taking another look at the gender/job satisfaction paradox, *KYKLOS*, **53,** 135–52.

Tsui, A., Egan, T., and O'Reilly, C. (1992) Being different: relational demography and organizational attachment, *Administrative Science Quarterly*, **37,** 554–79.

Walpole, R.E. (1974) *Introduction to Statistics*, MacMillan Publishing, New York.

Wootton, B. (1997) Gender differences in occupational employment, *Monthly Labor Review*, **120,** 15–24.