

Racial Harassment, Job Satisfaction and Intentions to Quit: Evidence from the British Nursing Profession

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We investigate the determinants of perceived racial harassment at the workplace, and investigate its impact on job satisfaction and quitting behaviour amongst ethnic minority nurses. To enable this we use data from a unique large-scale survey of British National Health Service nurses. Nearly 40% of ethnic minority nurses report experiencing racial harassment from work colleagues, whilst more than 64% report suffering racial harassment from patients. The experience of racial harassment at the workplace is found to lead to a significant reduction in job satisfaction, which, in turn, significantly increases nurses' intentions to quit their job. These results are found to be robust to endogeneity concerns, and have important policy implications for retaining qualified nursing staff in the British National Health Service.

Keywords: Racial Harassment, Nursing, Job Satisfaction, Intentions to Quit, Discrimination

JEL Classification: J15, J24, J71

INTRODUCTION

For the last fifty years, the National Health Service (NHS) has been the cornerstone of the welfare state in Britain. However, since its inception there have been persistent allegations that racial discrimination is an inherent feature of its internal labour market. These allegations have arguably been strongest in the case of qualified nursing staff who are a key input into the production of health care (see Akinsanya, 1988; Baxter, 1988; Beishon et al., 1995; Department of Health, 1998a; Ellis, 1990; and Pudney and Shields, 2000a, 2000b).¹ As described by Baxter (1988), 'The endurance of black nurses has been tested more cruelly and far longer, by persistent and systematic racism in the NHS'. This situation is in stark contrast to the 'marriage of convenience' arrangement, which occurred in the 1960s when the NHS actively recruited ethnic minority nurses from overseas in order to meet the chronic shortage of qualified staff faced by the hospital sector (Thomas and Morton-Williams, 1972). Since that time, members of ethnic minorities have been over-represented in the NHS nursing profession, with 6.3% of female nurses and 14.7% of male nurses coming from such minorities in 1990, compared with 3.6% and 3.9% in all employment in Britain (Beishon et al., 1995). As such, the NHS represents the largest employer of ethnic minority groups in Britain (Department of Health, 1998a).² Recent government concern about the extent of discrimination in the nursing labour market has led to 'a fair process for determining reward' and 'equality of opportunity' being identified as prime objectives in the Department of Health's recent Consultancy Document *Working Together: Securing a Quality Workforce for the NHS* (Department of Health, 1998b).

Racial discrimination, of course, is not only a characteristic of the nursing profession but also of the labour market more generally (for recent British evidence, see Blackaby et al., 1994, 1997, 1998; Modood et al., 1997; and Shields and Heatley Price, 1999). These studies have focussed on 'employer discrimination' as the primary explanation for unexplained ethnic differences in labour market outcomes. However, the causes and consequences of racial discrimination at the workplace have rarely been investigated using more direct measures. In particular, we are unaware of any quantitative studies which have explored the issue of racial harassment at the workplace.³ This is the most blatant and

incontrovertible form of racial discrimination in the labour market. It may take the form of 'employee discrimination' or 'consumer discrimination' and may impact on both the well-being of the harassed individual and their labour market behaviour.

Racial harassment at the workplace has been illegal in Britain since the Race Relations Act of 1976.⁴ Since the introduction of the Criminal Justice and Public Order Act in 1994, all forms of harassment, including racial harassment at the workplace, are considered criminal offences punishable by six months imprisonment or a fine of £5000 (Commission for Racial Equality, 1995). Moreover, the Crime and Disorder Act of 1998 created new 'racially aggravated offences' such as harassment, assault or grievous bodily harm, which carry significantly higher penalties.

In this paper, we investigate the determinants of racial harassment at the workplace, and its impact on job satisfaction and quitting behaviour. We examine these issues using a national survey of NHS nursing staff collected in 1994. To the best of our knowledge this survey represents the only large-scale British data source, which provides detailed information on workers' experiences of racially-motivated harassment at the workplace. Throughout the study we define racial harassment as behaviour towards the individual nurse that is perceived to be 'difficult, aggressive or hostile' on the grounds of race or colour. Given the hands-on nature of nursing, we explore the determinants and effects of such abuse emanating from two sources: work colleagues and patients. These can be considered as particular forms of 'employee discrimination' and 'consumer discrimination', respectively (Becker, 1957).

Our working hypotheses are that (i) the probability of reporting an episode of racial harassment is a function of the characteristics of individual nurses, the nursing job and the employer, and (ii) the experience of racial harassment from either patients or work colleagues leads to a considerable worsening of the work environment for affected nurses. This, in turn, reduces their overall level of job satisfaction (or utility from work) and increases the likelihood of them wanting to quit the NHS. In addition to the large psychological costs, ethnic minority nurses may face long-term economic disadvantage if racial harassment at the workplace leads them to quit nursing and accept a job with lower pay, become unemployed or even drop out of the labour market.

In addition to the personal costs of quitting, high quit rates in the nursing profession impose substantial costs on society. In the UK it costs over £50,000 to train a registered nurse, the vast majority of which is funded by the taxpayer, and over £5,000 for a NHS hospital trust to replace a core staff nurse (Audit Commission 1997). The social cost is larger for young and newly trained nurses. As we show later, it is precisely this group of ethnic minority nurses who are most likely to report experiencing racial harassment at the workplace, the least likely to be satisfied with their job and the most likely to indicate an intention to quit.

Moreover, in recent years nursing skill shortages have re-emerged in the NHS due to the falling recruitment of school-leavers into the profession and the poor retention of experienced nursing staff.⁵ In 1996, for example, there were over 6,600 full-time equivalent posts for registered nurses vacant, of which 43% were unfilled for at least three months (Secombe and Smith 1997). More recent estimates place the nurse shortage at 15,000 (Hancock, 1999). As a result, many hospitals have been forced to rely on temporary bank (or agency) nurses, which has led to considerable concern about the quality of patient care. In the worst cases, staffing shortages have led to ward and theatre closures, which have increased the length of waiting lists for many medical procedures (Audit Commission 1997). It is therefore important to examine whether, and to what extent, either form of perceived racial harassment at the workplace increases nurses' quitting intentions.

The paper is organized as follows. In Section I we introduce our data source and describe the particular characteristics of our sample. In the following three sections we first discuss some preliminary statistical results concerning the relevant dependent variables. We then present our empirical model and main hypotheses. Lastly, we discuss the results of the econometric investigations. Section II deals with perceived racial harassment at the workplace. Section III considers job satisfaction and intentions to quit is the subject of Section IV. In Section V we examine the robustness of our estimates to endogeneity concerns. Finally, Section VI presents the conclusions from this study.

I. DATA AND SAMPLE CHARACTERISTICS

Data

In order to explore the labour market consequences of racial harassment we use a unique survey of NHS nursing staff undertaken by the Policy Studies Institute and commissioned by the Department of Health (Beishon et. al., 1995). Postal questionnaires were sent to a random sample of one-in-three of the permanent nursing staff of 91 NHS employers in England between February and April 1994. Employers based in areas with a high ethnic minority density (and therefore more likely to have a high proportion of ethnic minority staff) were deliberately over-sampled in order to provide reliable information about the experiences of such groups in the NHS. The response rate to the questionnaire was 62% , which generated a sample of approximately 14,000 nursing staff. The survey presents the most comprehensive source of information regarding the state of the nursing profession in Britain, and contains wide-ranging information about the personal and work-related characteristics of nurses as well as their employers.⁶

In this paper, we focus on those 1203 nurses, aged 21 to 60, who reported their ethnicity as being other than White, and who were qualified as either a State Enrolled nurse (which typically requires two years training) or Registered General nurse (which requires three years training).

Sample Characteristics

We now describe the salient features of our sample and begin by considering the individual (or personal) characteristics of ethnic minority nurses in the NHS. Table A1, in the Appendix, provides the descriptive statistics of our sample and also those of white nurses as a point of comparison. Only 16.5% of the sample are male which reflects the female-dominated nature of the nursing profession. The average age of an ethnic minority nurse was 43 years, with 69% being married and 51% having at least one dependent child under the age of 16. Over 20% of the nurses in our sample had a high level of education ('A' level or degree), with about 56% having a moderate level of education ('O' level or equivalent) and around 23% possessing no formal schooling qualification.

Using the self-reported ethnicity and country of birth information we can distinguish between four ethnic minority groups of nurses. The largest group (comprising 38.3% of our sample) are Black

Caribbean, the vast majority of whom (82%) were born in the Caribbean. Black Africans are the second largest group (26.9% of the sample). Nearly half of this group was born in one country (Mauritius) although all are immigrants to the UK. Over 75% of South Asian nurses (comprising 15.8% of the sample) were born in the Indian sub-continent. South East Asian nurses (mainly from Malaysia, the Philippines, Singapore and Hong Kong) account for the remaining 19.0% of ethnic minority nurses in the British NHS.

We now discuss the main job-related characteristics of our sample. Three-quarters of ethnic minority nurses are qualified as Registered General nurses and occupy Staff nurse (grades D and E only), Senior nurse (Charge nurses – grade F – and Ward Managers – grade G) and Nurse Manager (grades H and I) positions. State Enrolled nurses (25.4% of the sample) can occupy grades C – E in the British NHS (grade C is unique to them). Nearly 57% of all ethnic minority nurses are employed as core Staff nurses, whilst 37% are Senior nurses and 6.2% have a Nurse Manager role. Those working part-time (< 35 hours per week) account for 22% of ethnic minority nurses, and the mean gross weekly wage is £279. Nearly 12% of nurses are currently participating in post-basic training. Importantly, over 90% of our sample are members of a trade union or professional organization. It has been shown elsewhere that ethnic minority nurses are less likely to be found in the higher grades and receive lower pay than comparable white nurses (see Pudney and Shields, 2000a, 2000b).

Our survey data also allows us to identify a number of further job-related characteristics, concerning the nature of nursing in the NHS that may be important in our subsequent analysis. The most prominent working pattern for ethnic minority nurses (accounting for 45% of our sample) is a mixed shift which includes night duties, with the remaining shift patterns split between working days only (27.1%), a mixed shift with no night duties (22.7%) and other (5.2%). A particular feature of nursing in the NHS, which is likely to lead to dissatisfaction with the job, is that nearly 44% of these nurses are working a shift pattern that is not their preferred choice. However, two-thirds of nurses do report having some degree of control over their exact working shift or hours. In each of these non-pecuniary aspects of the job ethnic minority nurses are more likely to report the less desirable outcomes, compared to their white colleagues.

In addition, ethnic minority nurses are often required to participate in unpaid overtime (nearly 7%), to undertake tasks that are generally above their grade (51.5%) and undertake nursing tasks below their grade (54.3%). Ethnic minority nurses are spread widely across specialties with 29.2% working in general medicine, 16.6% in primary and community care, 19.8% in mental illness, 14.9% in care of the elderly and 13.7% in midwifery. A much smaller proportion are employed in mental handicap (7.2%), pediatrics (4.6%) and other (2.4%) specialties. A worrying feature of the internal labour market for nurses in the NHS is that nearly 20% of ethnic minority nurses report facing discrimination with regard to gaining promotion or access to training opportunities in their careers.

Lastly, we examine the employer-related characteristics of our sample. Since the NHS health care reforms in 1989 most District General Hospitals (DGHs) have converted into independent NHS Trusts. As a result only 18.2% of our sample are employed in DGHs and 77.5% work in NHS Trusts. A small minority (4.3%) are based in Family Health Service Authorities (FHSAs). The average size of nursing employers (defined by the total number of nursing staff) is 1134. Interestingly, only 33% of nurses report that their employer actively encourages them to participate in career development activities such as further training. However, 76.1% of ethnic minority nurses report being employed at workplaces that have an equal opportunities policy in operation.⁷ It is important to note that the average density of ethnic minorities in the county in which the employers are located is 11.76% (roughly double the national average). This reflects the fact that employers in high ethnic minority regions were over-sampled in the survey. The average proportion of ethnic minority nurses, at our 91 employers, is over 26%. This is again far greater than in the whole NHS. Our NHS employers are concentrated in the Regional Health Authorities (RHAs) of London (50% of ethnic minority nurses in our sample are employed by North and South Thames), with the remainder spread throughout the other English RHAs.

II. THE DETERMINANTS OF RACIAL HARASSMENT AT THE WORKPLACE

Preliminary Analysis

Of particular interest in this paper are the two questions asked in the survey that focus specifically on nurses' perceptions of person-to-person racial harassment at the workplace. The first question relates to harassment arising from encounters with work colleagues, whilst the second concerns harassment that occurs as a result of interactions with patients or their families. The questions are as follows:

1. Do members of the nursing staff (including supervisors or managers) ever behave towards you in a difficult, aggressive or hostile way for reasons to do with your race or colour, and if so how often does this happen?
2. Do patients or their families ever behave towards you in a difficult, aggressive or hostile way for reasons to do with your race or colour, and if so how often does this happen?

Each question was addressed to the nurses in the survey, who could answer 'yes' to one of the following: DAILY, WEEKLY, MONTHLY, LESS OFTEN or NEVER. For ease of exposition, we use the term 'racial harassment' to cover all acts of 'difficult, aggressive or hostile behaviour' perceived to be based on the grounds of race or colour. However, there are a relatively small number of cases in some of these specific categories, especially when the sample is divided by ethnic group. Therefore, we gather together those reporting racial harassment on a DAILY, WEEKLY or MONTHLY basis into a FREQUENT category. For clarity we use the term INFREQUENT for those in the LESS OFTEN category.⁸

Table 1 shows the distribution of the answers to these two questions by our four main ethnic minority groups. It is immediately clear that perceived racial harassment is a substantial problem amongst NHS nurses. Nearly 40% (compared to 4.3% of White nurses) of all ethnic minority nurses in our sample report having experienced some racial harassment from work colleagues in their careers, with 6.5% (0.9% of Whites) reporting that this occurs frequently (at least monthly). The incidence of racial harassment from patients, or their families, is even greater. Nearly 65% (15.6% of Whites) of these nurses have been racially harassed by those that they are seeking to help at some point in their career, with almost 10% (2.4% of Whites) reporting that this is a frequent occurrence. It is notable that the incidence of racial harassment is generally higher for Black nurses compared to Asian nurses.

TABLE 1: THE INCIDENCE OF RACIAL HARASSMENT
AT THE WORKPLACE BY SOURCE AND ETHNIC MINORITY GROUP

Percentage	Racial Harassment from Staff			Racial Harassment from Patients			Sample Size
	Frequent	Infrequent	Never	Frequent	Infrequent	Never	
Black African	8.3 (1.5)	40.1 (2.7)	51.5 (2.8)	14.5 (2.0)	54.9 (2.8)	30.6 (2.6)	324
Black Caribbean	5.6 (1.1)	29.7 (2.1)	64.6 (2.2)	9.1 (1.3)	58.8 (2.3)	32.1 (2.2)	461
South Asian	8.4 (2.0)	30.5 (3.4)	61.1 (3.6)	5.8 (1.7)	50.5 (3.6)	43.7 (3.6)	190
South East Asian	4.0 (1.3)	28.1 (3.0)	68.0 (3.1)	7.5 (1.7)	48.7 (3.3)	43.9 (3.3)	228
All Non-Whites	6.5 (0.7)	32.3 (1.4)	61.2 (1.4)	9.7 (0.9)	54.5 (1.4)	35.7 (1.4)	1203
	(2265)	(11255)	(21325)	(3380)	(18991)	(12440)	(34845)

Note: Standard errors in parenthesis; authors' calculations of the number of NHS nurses (1994) in bolded parenthesis.

Black African nurses are the most likely to have ever been racially harassed by work colleagues, with more than 48% of them having suffered such behaviour in their careers. South Asian nurses are the most likely to experience such abuse on a frequent basis (8.4%) whilst Southeast Asians have the lowest incidence of frequent or infrequent racial harassment from staff. Given the hands-on nature of nursing, and the high proportion of total work-time typically spent interacting with patients, it is worrying to find that over two-thirds of Black nurses, and more than half of Asian nurses, report having been the subject of racial harassment by patients or their families during their working lives.

Model and Explanatory Variables

Given the ordinal nature of our two racial harassment questions we estimate ordered probit models to determine the frequency of racial harassment experienced by individual nurses' in terms of a latent variable (r^*) that drives the observed racial harassment frequency (r). For each individual,

$$(1) \quad r^* = a_1'IND1 + a_2'JOB1 + a_3'EMP1 + e$$

$$r = g \text{ if } M_{g-1} < r^* < M_g \quad g = 1, \dots, G - 1 \quad e \sim N(0,1)$$

where a_1, a_2 and a_3 are vectors of parameters, g denotes the frequency of racial harassment and r is coded as: (1) NEVER, (2) INFREQUENT and (3) FREQUENT. Equation (1) describes the individual's unobserved propensity to experience racial harassment, r^* , given vectors of exogenous individual

(IND1), job-related (JOB1) and employer characteristics (EMP1). The thresholds (M_0 to M_{g-1}) provide the values of r^* required for a given frequency of racial harassment to be experienced, with a value of $r^* < M_0$ placing an individual at the lowest frequency of racial harassment. As r^* increases one or more racial harassment thresholds are crossed and the individual's frequency of episodes increases. The model is estimated by Maximum Likelihood and identification is achieved by setting $M_0 = 0$ (See Greene, 1997, for additional details).

The individual covariates included in the vector IND1 are those that work colleagues or patients with the potential for racial harassment could use to differentiate between nurses at the workplace. Firstly, to avoid the imposition of any particular function form we enter age as 5 spline dummy variables. Our expectation is that young nurses, recently recruited to the profession, will be more vulnerable to episodes of racial harassment than more experienced nursing staff. We also include dichotomous variables for gender and marital status, as well as indicators of general educational attainment in the models.⁹ Given the likelihood that person-to-person racial harassment for ethnic minority nurses will be partly determined by characteristics associated with specific ethnic groups we include our four ethnic minority group dummy variables in the model. We anticipate that those nurses who appear to be the most different from the indigenous white population will be subjected to the greatest frequency of racial harassment.

The second vector of explanatory variables, JOB1, includes a number of distinctive characteristics of the nursing job. To broadly capture the type of nursing tasks undertaken by various nurses we include variables for seniority in our models. We expect that Senior nurses and Nurse Managers from ethnic minorities would be subjected to significantly less racial harassment emanating from fellow work colleagues than nurses at Staff nurse grades (C – E). This is because of the greater likelihood of such incident(s) being reported and disciplinary action taken. The expected relationship, however, is not so clear when considering patient-led episodes of racial harassment. It may be the case that the nurses most likely to be abused are those with whom the patients and their families have the most contact (i.e. Staff nurses). Alternatively, racial harassment by patients or their families may occur more often in more stressful situations, such as when the patient is very ill and the family are extremely concerned about the

patients' well being. If this is the case Senior Nurses are more likely to be involved in their care and therefore subjected to such abuse.

The frequency of racial harassment is likely to be related to time spent at work. We would anticipate that part-time nurses might be subject to less abuse. In addition, the shift pattern worked by nurses may make them more vulnerable to racial harassment. In particular, those working night shifts might be more exposed to difficult or aggressive patients and their families. The smaller number of staff working during night shifts, and especially the lower levels of supervision, might be contributory factors. The particular medical specialty is more likely to affect the frequency of racial harassment by patients than that from staff. For instance, patients on the paediatric wards might be less likely to racially harass nurses, whilst patients and relatives attending accident and emergency departments (part of the general medical specialty) might be the most aggressive and likely to be abusive.

Employer-related characteristics (contained in the vector EMP1) may also play an important part in determining the frequency of racial harassment that occurs. Nurses working for Family Health Service Authorities are more likely to work alone amongst patients in their own homes than those based in hospitals. Here patients are less likely to be restrained in their behaviour or to be witnessed actually racially harassing nurses. The expected penalty from racial harassment is thus reduced and this may increase the frequency of such abuse. In addition, the presence of an equal opportunities policy at the workplace is likely to deter staff from racially harassing nurses due to the increased probability of being reported and heightened awareness of the punishments that would result. Lastly, the ethnic minority density in the workplace may be related to staff-based racial harassment. The perceived threats to other nurses' job security, and the intensity of racial prejudice, are likely to be heightened when ethnic minority nurses are more visible in the workplace. This may well lead to increased occurrences of racial harassment by staff. Similarly, the greater the ethnic minority density in the area that the hospital serves, the more frequent racial harassment episodes by patients are likely to be.¹⁰

TABLE 2: ORDERED PROBIT ESTIMATES

OF THE DETERMINANTS OF RACIAL HARASSMENT AT THE NSW WORKPLACE

Explanatory Variable	RACIAL HARASSMENT FROM STAFF		RACIAL HARASSMENT FROM PATIENTS	
	Coefficient	Std. Error	Coefficient	Std. Error
Individual characteristics				
Age < 30	0.193	0.177	0.655	0.169***
Age 30-34	-0.001	0.157	0.543	0.147***
Age 35-39	0.274	0.136**	0.565	0.130***
Age 40-44	0.246	0.112**	0.333	0.107***
Age 45-49	-0.008	0.107	0.239	0.101**
Male	0.218	0.121*	0.019	0.114
Married	0.137	0.081*	-0.045	0.076
Black African	0.418	0.113***	0.406	0.106***
Black Caribbean	0.194	0.108*	0.296	0.099***
South Asian	0.304	0.129**	-0.023	0.122
Higher qualification ('A' level or degree)	0.359	0.123***	0.134	0.116
Middle qualification ('O' level or equivalent)	0.151	0.101	0.132	0.093
Job-related characteristics				
Nurse manager (grades H and I)	-0.003	0.172	-0.111	0.170
Senior nurse (grades F and G)	-0.239	0.098**	0.099	0.093
State Enrolled Staff nurse (grades C, D, and E)	-0.255	0.106**	0.021	0.100
Currently employed part-time (< 35 hours)	-0.111	0.096	-0.051	0.090
Tenure in current post (in months)	0.003	0.002*	0.003	0.002**
Tenure in current post squared / 100	-0.001	0.001*	-0.001	0.000*
Member of a trade union or professional body	0.041	0.145	0.073	0.135
Day shift pattern only	-0.043	0.113	-0.196	0.106*
Mixed shift pattern but with no nights	0.125	0.093	-0.152	0.089*
Other shift pattern but with no nights	-0.056	0.174	-0.166	0.160
Paediatrics specialty	-0.113	0.175	-0.483	0.170***
Midwifery specialty	-0.095	0.119	-0.234	0.112**
Mental illness specialty	-0.329	0.111***	0.005	0.102
Mental handicap specialty	-0.101	0.152	-0.610	0.149***
Care of the elderly specialty	-0.069	0.108	0.178	0.099*
Primary and community specialty	-0.145	0.143	-0.221	0.134*
Other specialty	0.049	0.235	0.124	0.224
Employer-related characteristics				
Employed by a General District Hospital	-0.224	0.097**	-0.004	0.069
Employed by a Family Health Service Authority	-0.081	0.217	0.485	0.205**
Size of employer / 100 (in terms of nursing staff)	-0.001	0.000*	-0.001	0.001
Equal opportunities policy at workplace	-0.151	0.086*	0.099	0.082
Percentage of ethnic minorities in county	-	-	0.007	0.002***
Percentage of ethnic minority staff at workplace	0.012	0.005***	-	-
Sample	1203		1203	
Log Likelihood	-1054.07		-1182.74	
Model χ^2 (d.f. 34, 34)	90.23***		115.70***	

Notes: * Statistically significant at the .10 level; ** at the .05 level; *** at the .01 level. - indicates that the variable is not included in the model. Four constant thresholds were also estimated. Our base categories are: age 50+; female; single; South East Asian; no general qualifications; Registered General Staff nurse (grades D and E); currently employed full-time, not a member of a trade or professional body, mixed shift pattern with nights; general medical specialty; employed by a NHS Hospital/Trust; no equal opportunities policy at workplace.

Empirical Results

Table 2 reports the coefficient estimates from the two ordered probit determinants of racial harassment models.¹¹ To a large extent these estimates confirm our prior expectations. Nurses in the prime age ranges of 35–39 and 40–44 years old are significantly more likely to report frequent racial harassment by fellow staff members, than those over the age of 49. Nurses in all age ranges younger than 50 are significantly more likely to report frequent episodes of racial harassment by patients and their families, than those aged 50 or older. The magnitude of the coefficients generally decline with age suggesting that younger nurses are more vulnerable to frequent racial harassment than older nurses. Male nurses, those who are married and those possessing higher qualifications are significantly more likely to report frequent racial harassment by staff compared to their respective base groups.

Regardless of the source of racial harassment, Black African and Black Caribbean nurses are significantly more likely to experience frequent episodes of racial harassment, compared to South East Asian nurses. South Asian nurses also experience significantly more frequent racial harassment from staff than their South Asian colleagues. These findings generally confirm our expectation that those nurses who appear to be the most different from the indigenous white population will suffer the most abuse. Racial harassment from staff is significantly less frequent amongst Senior nurse and State Enrolled Staff nurses than for Registered General Staff nurses. Tenure in current post (and at current grade) is related to the reporting of racial harassment from either source with an inverse U-shaped pattern.

As expected, working a shift pattern with no nights is negatively and significantly (in two out of the three categories) associated with episodes of racial harassment from patients, compared to those working some night shifts. Ethnic minority nurses in the medical specialties of paediatrics, midwifery, mental handicap, primary and community report significantly less frequent occurrences of racial harassment from patients, in comparison with the general medical specialty. However, their colleagues in the care of the elderly specialty are significantly more likely to report frequent episodes of such abuse, than those in the base category. In the case of racial harassment by staff, only those ethnic minority nurses working amongst the mentally ill are less vulnerable than those in the base category. Nurses employed by General District Hospitals are less likely to experience frequent episodes of racial harassment from staff,

and those employed by Family Health Service Authorities are significantly associated with frequent abuse from patients, compared to nurses in NHS Hospital Trusts.

Interestingly, the presence of an equal opportunities policy, which implies regular training and monitoring of these issues, significantly reduces the frequency of racial harassment by staff. Evidently, the awareness of the legal situation that this brings, in combination with the deterrent affect of knowing the penalties for such illegal activity, act to reduce the incidence and frequency of racial harassment by staff. Requiring the implementation of equal opportunities policies by all nursing employers and increasing the level of equal opportunities training may go some way towards combating this form of racial harassment. Frequent racial harassment by work colleagues (patients) is statistically associated with increased ethnic minority density at the workplace (in the county). Evidently the majority population, in each case, are more likely to react in this way the greater is the perceived threat from ethnic minorities.

III. THE IMPACT OF RACIAL HARASSMENT ON JOB SATISFACTION

Preliminary Analysis

It seems reasonable to expect that workplaces characterised by racial harassment would, for ethnic minority workers, be less satisfying environments than those where such abuse does not take place. In addition the frequency of occurrence and the source of the harassment would be expected to affect job satisfaction. Therefore we examine the proportion of nurses who were satisfied with their job according to frequency of our two separate sources of racial harassment. As before this is done for the whole ethnic minority sample and for our four separate groups. Our overall job satisfaction measure is defined as follows. In the survey each nurse was asked to rank their overall job satisfaction on the following four-point scale: (1) Very Dissatisfied, (2) Dissatisfied, (3) Neither Satisfied nor Dissatisfied, and (4) Satisfied. In Table 3 we report the proportion satisfied in each cell (i.e. category 4 only) but in our subsequent ordered probit analysis the dependent variable takes the full range of values.

The simple calculations confirm our earlier expectations. The proportion of ethnic minority nurses who are satisfied with their current job is inversely related to the frequency of racial harassment they experience. Interestingly, but perhaps not surprisingly, racial harassment from staff colleagues results in a

lower incidence of job satisfaction (12.8% and 30.1%), regardless of frequency, when compared to the more common racial harassment from patients or their families (24.8% and 36.3%, respectively). This finding generally holds for each ethnic group as well. According to our sample of ethnic minority nurses, working in the British NHS is not a satisfying experience. Even amongst those who have never been racially harassed generally more than 50% are not satisfied in their job.

TABLE 3: PERCENTAGE OF ETHNIC MINORITY NURSES REPORTING
JOB SATISFACTION BY SOURCE AND FREQUENCY OF RACIAL HARASSMENT

Percentage	Racial Harassment from Staff			Racial Harassment from Patients			Sample Size
	Frequent	Infrequent	Never	Frequent	Infrequent	Never	
Black African	14.8 (7.0)	24.6 (3.8)	47.9 (3.9)	10.6 (4.6)	38.8 (3.7)	42.4 (5.0)	324
Black Caribbean	11.5 (6.4)	27.7 (3.8)	44.9 (2.9)	28.6 (7.1)	36.2 (2.9)	43.9 (4.1)	461
South Asian	12.5 (8.5)	31.0 (6.1)	51.7 (4.7)	36.4 (15.2)	36.5 (4.9)	49.4 (5.5)	190
South East Asian	11.1 (11.1)	45.3 (6.3)	41.9 (4.0)	47.1 (12.5)	32.4 (4.5)	51.1 (5.0)	228
Total Sample	12.8 (3.8)	30.1 (2.3)	46.1 (1.8)	24.8 (4.0)	36.3 (1.9)	46.3 (2.4)	1203

Note: Standard errors in parenthesis

Model and Explanatory Variables

Since the seminal work of Hamermesh (1977) and Freeman (1978), there has been a growing literature by economists concerned with estimating the determinants of job satisfaction. Much of this work has been motivated by the psychology literature, which has resulted in considerable agreement over the explanatory variables that are the most important. Whilst there are a few general studies by economists of these determinants (e.g. Freeman, 1978; Clark, 1996), most research has been directed at explaining the relationship between one particular individual or employer characteristic and job satisfaction.¹²

The general framework adopted is to define an individual's utility from working as:¹³

$$(2) \quad U = u(Y, H, RY, IND, JOB, EMP)$$

where Y is the absolute wage and H is the number of hours worked. Utility from work is assumed to be positively related to wages, and negatively related to working hours. RY is the wage that the worker believes she could earn if employed elsewhere (termed the 'relative' or 'comparison' wage). It is

expected that the higher RY relative to Y, the lower will be U. This captures an effect that can be described as relative deprivation, envy, jealousy or inequity (Clark and Oswald, 1996). Variations in work-based utility are additionally explained by differences in individual specific characteristics, IND, job characteristics, JOB, and employer characteristics, EMP (the latter two vectors characterising the general work environment).¹⁴

In this paper we extend the elements in (2) as follows:

$$(3) \quad U = u(Y, H, RY, IND, JOB, EMP, HARASS)$$

where HARASS is the experience of racial harassment at work, assumed to be negatively related to U.

In this context, our self-reported measure of overall job satisfaction is taken to represent a direct proxy for U. Consequently, we estimate ordered probit models to determine the level of job satisfaction reported by individual nurses in terms of a latent variable (s^*) and the observed job satisfaction level (s) as follows:

$$(4) \quad s^* = b_1' h Y + b_2' H + b_3' h RY + b_4' IND^2 + b_5' JOB^2 + b_6' EMP^2 + b_7' HARASS + u$$

$$s = h \text{ if } T_{h-1} < s^* < T_h \quad h = 1, \dots, H-1 \quad u \sim N(0, 1)$$

where b_i ($i=1 \dots 7$) are vectors of parameters and h denotes the level of job satisfaction. We code s as:

(1) VERY DISSATISFIED, (2) DISSATISFIED, (3) NEITHER SATISFIED NOR DISSATISFIED and

(4) SATISFIED. Equation (4) then describes the individual's unobserved propensity for job satisfaction

(utility from work), s^* , given the seven vectors of exogenous variables. T_0 to T_{h-1} are estimated constant thresholds governing the movement along the job satisfaction index.

We estimate two versions of the model. In the BASIC model we set $\beta_3 = \beta_5 = \beta_6 = 0$. Following previous studies we include controls for age, gender, marital status, ethnic minority background and level of education in the individual characteristics vector IND². The coefficient estimates associated with the frequency of work colleague and patient-led racial harassment (HARASS) therefore provide a benchmark effect of racial harassment on job satisfaction. If, however, the occurrence of frequent racial harassment is indicative of a workplace that offers employees a poor work environment in other respects, then this simple model will provide biased (upwards) estimates of the effect of racial harassment on job

satisfaction.¹⁵ Thus in our EXTENDED model we relax these restrictions and, additionally, control for other important aspects of the nursing working environment which are likely to impact on job satisfaction. The elements in vector JOB2 are being employed in a shift pattern which is not equal to the preferred pattern, having a degree of control over working hours, participating in unpaid overtime, undertaking work tasks above and below nursing grade, having experienced discrimination with regards to promotion or training, nursing specialty, past and present human development activities, tenure in current post and trade union membership. The type and size of employer, whether the employer encourages human capital activities and the percentage of ethnic minority staff at the workplace constitute EMP2.¹⁶

Finally, a continuous relative wages variable is included in log form (RY). This relative wage measure is analogous to that of Clark and Oswald (1996), but in our case is based on the wages of other public sector employees in Britain rather than the entire employee labour force, conditional on observable human capital characteristics. It was constructed using data from the UK's Quarterly Labour Force Survey (see Appendix A2 for details). The comparison with other public sector professions is pertinent since the whole debate about the relative pay of NHS is typically positioned with respect to the pay of public sector employees such as teachers, police and social workers.

Empirical Results

The coefficient estimates for the BASIC and EXTENDED models of job satisfaction are provided in Table 4. A likelihood ratio test indicates that the EXTENDED model is a significant improvement over the BASIC model ($\chi^2(25) = 161.56$; 1% critical value = 44.3) hence we focus our discussion on these results. As expected, the lower the (log) weekly wage and the higher the (log) comparison weekly wage, the lower is the reported level of job satisfaction. Low rates of pay may signal to the nurse that they are not highly valued by employers, which leads to a reduced level of job satisfaction. The second effect is related to expectations of worth. The greater is the difference between a nurse's pay and others in comparable jobs then the less satisfied the nurse is likely to be.

TABLE 4: ORDERED PROBIT ESTIMATES
OF THE DETERMINANTS OF JOB SATISFACTION FOR NURSES

Explanatory Variables	BASIC MODEL		EXTENDED MODEL	
	Coefficient	Std. Error	Coefficient	Std. Error
Log weekly wage (£)	0.476	0.186***	0.409	0.225*
Currently employed part-time (< 35 hours)	0.373	0.164**	0.375	0.217*
Log comparison weekly wage (£)	-	-	-0.534	0.225**
Individual characteristics				
Age < 30	-0.317	0.151**	-0.440	0.176**
Age 30-34	-0.263	0.132**	-0.260	0.145*
Age 35-39	-0.223	0.120*	-0.172	0.129
Age 40-44	-0.161	0.097*	-0.086	0.107
Age 45-49	-0.061	0.095	-0.018	0.100
Male	-0.095	0.097	0.068	0.127
Married	0.019	0.073	0.023	0.075
Black African	-0.015	0.101	0.087	0.114
Black Caribbean	-0.043	0.095	0.018	0.108
South Asian	0.142	0.116	0.221	0.128*
Higher qualification ('A' level or degree)	-0.028	0.106	0.419	0.208**
Middle qualification ('O' level or equivalent)	-0.004	0.086	0.180	0.105*
Job-related characteristics				
Currently undertaking post-basic training	-	-	0.068	0.107
Number of completed post-basic training spells	-	-	-0.067	0.031**
Tenure in current post (in months)	-	-	-0.001	0.002
Tenure in current post squared /100	-	-	0.000	0.001
Member of a trade union or professional body	-	-	-0.197	0.135
Actual work shift pattern is not equal to preferred	-	-	-0.286	0.069***
Some control over working shifts and hours	-	-	0.115	0.070*
Often participates in unpaid overtime	-	-	-0.243	0.135*
Often undertakes nursing tasks above grade	-	-	-0.215	0.069***
Often undertakes nursing tasks below grade	-	-	-0.266	0.071***
Faced discrimination in promotion and training	-	-	-0.536	0.091***
Paediatrics specialty	-	-	0.178	0.163
Midwifery specialty	-	-	-0.147	0.107
Mental illness specialty	-	-	0.072	0.102
Mental handicap specialty	-	-	-0.251	0.142*
Care of the elderly specialty	-	-	-0.136	0.098
Primary and community specialty	-	-	0.141	0.119
Other specialty	-	-	0.016	0.224
Employer-related characteristics				
Employed by a General District Hospital	-	-	0.174	0.088**
Employed by a Family Health Service Authority	-	-	0.225	0.208
Size of employer /100 (in terms of nursing staff)	-	-	-0.000	0.000
Employer encourages human development activities	-	-	0.295	0.076***
Equal opportunities policy at workplace	-	-	0.020	0.080
Percentage of ethnic minority staff at workplace	-	-	0.002	0.002
Racial harassment characteristics				
Frequent racial harassment from work colleagues	-0.955	0.140***	-0.589	0.147***
Infrequent racial harassment from work colleagues	-0.339	0.074***	-0.174	0.078**
Frequent racial harassment from patients	-0.263	0.125**	-0.228	0.115*
Infrequent racial harassment from patients	-0.142	0.073*	-0.131	0.077*
Sample		1203		1203
Log Likelihood		-1340.30		-1260.54
Model χ^2 (d.f. 18, 43)		120.31***		279.84***

Notes: * Statistically significant at the .10 level; ** at the .05 level; *** at the .01 level. - indicates that the variable is not included in the model. Three constant thresholds were also estimated. The base categories are the same as in Table 2 and, additionally: not currently training; actual shift pattern is equal to preferred; has no control over working shifts and hours; does not often participate in unpaid overtime; does not often undertake nursing tasks above grade; does not often undertake nursing tasks below grade; has not faced discrimination in promotion or training; employer does not encourage human development activities; never been racially harassed by work colleagues or patients, respectively.

In contrast to the U-shaped relationship found for studies of the wider workforce, our results suggest that job satisfaction levels increase progressively with age amongst ethnic minority nurses in the British NHS. Those under 35 years old are significantly less likely to be more satisfied with their job than nurses over 49 years. The coefficients indicate a declining disparity from the base group with increasing age. Interestingly neither the sex of the nurse nor their marital status or ethnic group (except South Asians) significantly improve their levels of job satisfaction. Higher levels of qualifications also appear to be significantly associated with higher levels of job satisfaction amongst ethnic minority nurses in Britain.

Several job-related characteristics are statistically associated with reduced levels of job satisfaction amongst ethnic minority nurses. Specifically, those with a number of completed post-basic training spells, required to work sub-optimal shift patterns, unpaid overtime and undertake tasks inappropriate to their grade or working in the mental handicap specialty report lower levels of job satisfaction. However, the nurses in our sample who have some control over their work patterns are significantly more likely to be more satisfied than those who do not.

Furthermore, ethnic minority nurses who have faced discrimination with regard to promotion and training are, not surprisingly, significantly less satisfied with their job than others who have not had such experiences. The magnitude of this coefficient indicates that this is the second most important determinant of job satisfaction. Nurses who work for a District General Hospital and those who have an employer who encourages human development activities are significantly more likely to report increased levels of job satisfaction. We find no significant effect of ethnic density at the workplace.

It is clear from our multivariate analysis that the experience of racial harassment significantly reduces job satisfaction and that frequent episodes of abuse imply a much lower level of job satisfaction than infrequent occurrences. The strongest effects are due to racial harassment emanating from work colleagues. Indeed, the coefficient on frequent racial harassment from work colleagues has the largest magnitude of all the estimated coefficients in the model. This suggests that this form of 'employee discrimination' is the most important determinant of job satisfaction amongst ethnic minority nurses in the British NHS. The more common racial harassment from patients and their families ('consumer discrimination') is also statistically associated with reduced levels of job satisfaction in our sample.

TABLE 5: THE PREDICTED IMPACT OF RACIAL HARASSMENT ON THE PROBABILITY OF REPORTING JOB SATISFACTION BY THE SOURCE OF RACIAL HARASSMENT

Probability	Satisfied	Neither	Dissatisfied	Very Dissatisfied
Frequent harassment from work colleagues	0.124	0.387	0.272	0.218
Infrequent harassment from work colleagues	0.310	0.448	0.170	0.072
No harassment from work colleagues	0.456	0.410	0.104	0.030
Frequent harassment from patients	0.238	0.429	0.206	0.126
Infrequent harassment from patients	0.360	0.437	0.146	0.057
No harassment from patients	0.470	0.394	0.102	0.034
Total Sample	0.387	0.421	0.136	0.056

Note: Calculated holding all other explanatory variables at their sample mean value.

Table 5 illustrates the strength of these effects by providing the predicted probability of reporting job satisfaction by source and frequency of racial harassment. Nurses who report frequent harassment from work colleagues (patients), holding other characteristics at their sample mean values, have a probability of being satisfied of .124 (.238) compared to one of .456 (.470) for nurses reporting no harassment. They are also more than seven (four) times as likely to report being very dissatisfied with their job, and nearly three times (more than twice) as likely to be dissatisfied than those who have not been racially harassed.

IV . THE IMPACT OF JOB SATISFACTION ON INTENTIONS TO QUIT

Preliminary Analysis

The findings in Section III, when taken together with the severe nurse recruitment and retention problems in the British NHS, suggest that it is important to explore the relationship between job satisfaction and intentions to quit. In order to do this, we use the responses to a question concerning nurses' expectations of their employment status three years after the survey. Fourteen possible responses were available, with three indicating that the nurse expected to remain in the NHS (in a better nursing job, the same job and grade, or the same job but at a lower grade), and the remainder focusing on activities outside of the NHS (for example, nursing in the private sector, a non-nursing job, in full or part-time education, working overseas or raising a family). One potential problem with this measure of expected employment status is that respondents could provide multiple answers. Therefore, we have defined a 'STAYER' as a nurse who

indicates only one or more of the three staying in the NHS options but nothing else. We define a 'QUITTER' as a nurse who indicates one or more of the non-NHS activities but none of the 'STAYER' categories. The small number of nurses who indicate both a 'STAYER' and 'QUITTER' intention we define as a 'QUITTER', since they have indicated some uncertainty about their future employment status in the NHS.¹⁷

The relationship between job satisfaction and quitting intentions is summarised in Table 6 for all ethnic minority nurses and by separate ethnic group. These simple cross-tabulations clearly demonstrate the level of job satisfaction is negatively correlated with increased intentions to quit. Nearly two-thirds of dissatisfied or very dissatisfied nurses (63.2%) expressed an expectation of leaving the NHS within three years. An intention to quit was also indicated by 54.2% of nurses who were neither satisfied nor dissatisfied and 47.6% of those who were satisfied with their job. This pattern is generally repeated for each ethnic group. Given the magnitude of the nurse retention problem in the British NHS these figures are alarmingly high. Between 38.9% and 52% of even the most satisfied ethnic minority nurses in our sample did not expect to be working within the organisation three years later.

TABLE 6: PERCENTAGE OF ETHNIC MINORITY NURSES REPORTING AN INTENTION TO QUIT BY JOB SATISFACTION

Percentage	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied or Very Dissatisfied	Sample Size
Black African	45.7 (4.7)	54.3 (3.5)	61.2 (5.9)	324
Black Caribbean	52.0 (3.8)	58.4 (2.9)	58.1 (5.1)	461
South Asian	51.3 (5.6)	56.4 (4.8)	66.7 (8.8)	190
South East Asian	38.9 (5.0)	51.6 (5.2)	75.0 (6.9)	228
Total Sample	47.6 (2.3)	54.2 (2.2)	63.2 (3.2)	1203

Note: Standard errors in parenthesis

Model and Explanatory Variables

There are now a large number of studies that have estimated the effect of wages and other work-related characteristics (e.g. marital status, education) on labour market turnover. Nursing represents perhaps the most researched profession in this regard (recent examples include, Ahlburg and Brown Mahoney, 1996;

Parker and Rickman, 1995; Phillips, 1996; Schumacher, 1997).¹⁸ In contrast, there have been very few studies which have examined the role played by job satisfaction in quitting decisions (Brown and McIntosh, 1998; Clark et al., 1999). One obvious reason for this is the lack of large-sample longitudinal data that can be used to identify both job satisfaction at wave $t-1$ and job turnover between waves $t-1$ and t .

The most notable exception is Freeman (1978), who used panel data from the US National Longitudinal Survey (NLS, 1966-1971) and the Michigan Panel Survey of Income Dynamics (PSID, 1972-73). He found that reported job satisfaction was a significant determinant of quitting and quantitatively more important than wages. This relationship has been confirmed by Akerlof et al. (1988) using the NLS Older men survey, and more recently by Clark (1999) and Clark et al. (1999) using data from the first five waves of the British Household Panel Survey (1991-1996) and the first ten waves of the German Socio-Economic Panel (1984-1993).¹⁹ These studies have robustly established that the causality runs from job satisfaction to quitting outcomes. A further advantage of panel data studies is that unobservable individual heterogeneity can be easily controlled for. However, it has been found that such controls do not significantly change the estimated parameters of the model. This important result suggests that cross-sectional estimates are robust to this issue (see Clark, 1999; Clark et al., 1999).

In the absence of appropriate panel data, an alternative approach to examining the relationship between job satisfaction and quitting behaviour has been to use the responses from cross-sectional survey questions asking participants about their future employment expectations or intentions (i.e. 'latent' turnover).²⁰ Recently, Laband and Lentz (1998) confirmed the significance of job satisfaction as a determinant of intentions to quit using a sample of 176 female lawyers collected by the American Bar Association's Young Lawyers Division in 1990. Interestingly, and closely related to the issues addressed in this paper, Laband and Lentz (1998) also provide an insight into the impact of sexual harassment on the labour market outcomes for this group of female employees. In particular, they found strong evidence linking the experience of sexual harassment at the workplace (by supervisors, work colleagues and clients) to reduced job satisfaction and an increased probability of intending to quit the law firm.

Given the cross-sectional nature of our data, the model of quitting behaviour we estimate is similar to Laband and Lentz (1998). Since we are not able to track nurses over a period of time and observe their actual quitting behaviour, we use information on nurses' intentions to quit in the three years following interview. The question which then arises is 'How good a predictor of actual quitting is intended quitting?' To answer this question we rely on a small longitudinal study of NHS nurses conducted by Mercer (1979). Although dated, Mercer found that quitting intentions were the strongest predictor of actual turnover, with over 83% of the 17% of nurses reporting an intention to quit having done so within the following year. Steel and O'valle (1984) also provide some confirmation of this finding, more generally, using a meta-analysis of the large number of psychology studies that have examined the relationship between behavioural intentions and employee turnover.

Considering the dichotomous nature of our quitting variable (i.e. $STAYER = 0$, $QUITTER = 1$) we estimate a binary probit model in order to calculate the probability of nurses intending to leave the NHS in the three years following interview. We assume that intentions to quit are a function of current job satisfaction (or utility from work) and vectors of individual and work-related characteristics. These vectors aim to capture the labour and non-labour market opportunities available to our sample outside of the NHS.

In order to gain a baseline estimate of the effect of job satisfaction on intentions to quit, we begin by estimating a BASIC model that restricts the coefficients associated with the vectors $JOB3$ and $EMP3$ to be zero. $IND3$ includes dummy variables for age, gender, marital status, ethnicity and highest qualification, and a continuous variable for the number of children (and its square). We might expect that younger nurses and the more educated would have the greatest labour market opportunities outside of the NHS. The vector of characteristics SAT comprises dummy variables for the four levels of reported job satisfaction, with very dissatisfied acting as the comparison category.

In order to capture as much variation in intentions to quit as possible, the EXTENDED model includes dichotomous variables for nursing seniority or grade, part-time work status, tenure in current grade and post, trade union membership and nursing speciality ($JOB3$). Since senior and manager nursing grades require a considerable amount of nursing-specific human capital investment (on-the-job

experience and post-basic training), which would be lost in professions outside of nursing, we might expect that highly trained nurses would be less likely to quit the NHS than more junior nurses. However, it is also the case that a substantial component of senior nurses' job tasks are management and human resource management related, which are general skills applicable to many areas of the labour market. Thus this group of nurses may be more likely to quit the NHS. The vector EMP3 includes controls for the type and size of employer, whether there is an equal opportunities policy at the workplace and ethnic minority density. Finally, eight regional dummy variables are also included in the EXTENDED model in order to capture differences in labour market opportunities.

Empirical Results

The estimates from the BASIC and EXTENDED binary probit models are shown in Table 7. A likelihood ratio test indicates that the inclusion of the job and employer-related variables in the EXTENDED model do not provide a significant improvement over the BASIC model ($\chi^2(25) = 28.37$; 10% critical value = 34.38).²¹ However, the full model results are presented so that it can be clearly seen which job or employer-related characteristics are significantly associated with quitting intentions and which are not. The probability of intending to quit for an ethnic minority nurse (using the EXTENDED model estimates evaluated at average characteristic values) is 0.534.

In both sets of estimates nurses aged less than 30 and 30–34 are significantly more likely to indicate an intention to leave the NHS than nurses over the age of 50. This suggests that the NHS is at a greater risk of losing newly qualified nurses than those approaching retirement. Indeed nurses aged less than 30 (aged 30–34) have a 0.274 (0.172) increased average quitting probability, compared to the base category.²² Nurses aged 45–49 are significantly less likely to indicate an intention to quit than those over 50 years old. Quitting intentions are also significantly related to the number of children with a U-shaped pattern. Having a few children decreases, but having many children increases, the likelihood of a nurse intending to leave the NHS in the near future. Being married is associated with a significantly reduced probability of leaving, but the sex, ethnic group and level of qualifications of these nurses are not statistically associated with their intentions to quit.

TABLE 7

BINARY PROBIT ESTIMATES OF INTENTIONS TO QUIT

Explanatory Variables	BASIC MODEL		EXTENDED MODEL	
	Coefficient	Std. Error	Coefficient	Std. Error
Individual characteristics				
Age < 30	0.580	0.178***	0.770	0.198***
Age 30-34	0.328	0.153**	0.453	0.169***
Age 35-39	0.144	0.143	0.282	0.153*
Age 40-44	-0.168	0.119	-0.120	0.125
Age 45-49	-0.240	0.109**	-0.207	0.113*
Male	-0.009	0.110	-0.031	0.128
Married	-0.137	0.083*	-0.148	0.088*
Number of children	-0.173	0.100*	-0.189	0.103*
Number of children squared	0.069	0.033**	0.074	0.034**
Black African	-0.056	0.116	-0.009	0.121
Black Caribbean	0.024	0.108	0.023	0.112
South Asian	-0.097	0.131	-0.088	0.136
Higher qualification (A level or degree)	0.037	0.116	-0.081	0.130
Middle qualification (O level or equivalent)	0.118	0.096	0.066	0.103
Job-related characteristics				
Nurse manager (grades H and I)	-	-	0.326	0.182*
Senior nurse (grades F and G)	-	-	0.328	0.103***
State Enrolled Staff nurse (Grade C, D, and E)	-	-	0.028	0.112
Currently employed part-time (< 35 hours)	-	-	0.110	0.103
Tenure in current post and grade (in months)	-	-	0.001	0.000*
Member of a trade union or professional body	-	-	0.131	0.152
Paediatrics specialty	-	-	-0.478	0.185***
Midwifery specialty	-	-	-0.083	0.124
Mental illness specialty	-	-	-0.026	0.117
Mental handicap specialty	-	-	-0.104	0.169
Care of the elderly specialty	-	-	-0.074	0.112
Primary and community specialty	-	-	-0.068	0.137
Other specialty	-	-	0.193	0.250
Employer-related characteristics				
Employed by a General District Hospital	-	-	0.025	0.105
Employed by a Family Health Service Authority	-	-	-0.017	0.227
Size of employer /100 (in terms of nursing staff)	-	-	0.001	0.001
Equal opportunities policy at workplace	-	-	-0.032	0.091
Percentage of ethnic minorities in region	-	-	0.006	0.006
Job satisfaction characteristics				
Satisfied overall with job	-0.526	0.176***	-0.577	0.180***
Neither satisfied or dissatisfied overall with job	-0.379	0.175**	-0.392	0.178**
Dissatisfied overall with job	-0.253	0.194	-0.303	0.198
Constant	0.574	0.212	0.209	0.210
Sample		1203		1203
Log Likelihood		-795.22		-781.03
Model χ^2 (d.f. 17, 42)		71.81		100.18

Notes: * Statistically significant at the .10 level; ** at the .05 level; *** at the .01 level. - indicates that the variable is not included in the model. The base categories are as in Tables 4 and 5 with the addition of being very dissatisfied with job. Regional controls were also included in the models.

The EXTENDED model estimates indicate that Nurse Managers and Senior Nurses are significantly more likely to intend leaving the NHS than Registered General Staff nurses. Their marginal increases in quitting probabilities are 0.126 and 0.128, respectively, over that of an otherwise average Registered General Staff nurse. This is a cause for considerable concern since these individuals are the most experienced and highly qualified nurses, and therefore the most difficult to replace. Paediatric nurses are significantly less likely to quit (marginal effect = -0.188) than those in the general medical specialty. The only other statistically significant characteristics in the EXTENDED model are for nurses aged 35-39, tenure in current post and for three of the regional dummies.

Importantly, increased levels of job satisfaction are significantly associated with reductions in intentions to quit amongst ethnic minority nurses in the NHS. The effects are quantitatively large with nurses who are satisfied (neither satisfied nor dissatisfied) with their job having a probability of quitting 0.227 (0.155) lower than those who are very dissatisfied.²³ Given the low levels of job satisfaction amongst ethnic minority nurses and the nurse retention problems in the NHS these findings are particularly worrying.

V. TESTING FOR ROBUSTNESS

In the sequential model framework we presented in Sections II, III and IV, we assumed that the error terms of the racial harassment, job satisfaction and intentions to quit equations were independent. However, it might be the case that there exists an unobservable individual characteristic that jointly determines two or more of these outcome measures. Examples of such characteristics might be poor health or a general 'bad attitude' to work, which are unobserved in the survey. To provide a simple test of the robustness of our findings to endogeneity concerns we have simultaneously modelled perceptions of racial harassment, job satisfaction and intentions to quit using a multivariate probit framework. This model is a direct three-equation extension of the widely used bivariate probit model, and allows for contemporaneous correlation between the residual terms. If our separate model estimates were subject to such endogeneity concerns, this methodology would lead to more consistent estimates of the relationship between the three outcome measures. Given the difficulties involved with the evaluation of higher-order

multivariate normal integrals, the model is estimated by approximating the CDF using the GHK simulated maximum likelihood estimator as implemented by the MPROBIT command in LIMDEP V.7 (See Greene 1997, for a fuller discussion).

To order to estimate this model we need to construct binary indicators of racial harassment and job satisfaction (our intentions to quit variable is already binary). Thus we have created a variable that takes the value of unity if a nurse reports experiencing racial harassment at work (either from work colleagues or patients) and zero otherwise.²⁴ Similarly, we have collapsed our ordered job satisfaction measure into a SATISFIED variable that takes the value 1 if a nurse reports satisfaction with her job, and 0 otherwise. The covariates included in the three equations are the same as reported in the separate models presented above, thus providing a number of identification restrictions.

The estimation results suggest both a positive and significant correlation between the error terms of the racial harassment and job satisfaction equations ($\rho = 0.255$, $t| = 1.565$), and between the job satisfaction and intentions to quit residuals ($\rho = 0.399$, $t| = 3.069$). In contrast, we find no statistically significant between the error terms in racial harassment and intentions to quit equations ($\rho = -0.050$, $t| = 0.670$). Importantly, our findings with respect to the effect of perceived racial harassment on job satisfaction, and of job satisfaction on intentions to quit, remain statistically significant. It also remains the case that perceived racial harassment from work colleagues causes a greater reduction in job satisfaction than such harassment from patients, and that reported job satisfaction has the greatest impact on quitting intentions of all the covariates included in the model.²⁵ Overall, these findings provide us with greater confidence in the robustness of our results, and also appear to support the conclusions of Clark et al. (1999) and Clark (1999), who note that cross-sectional estimates of the determinants of job satisfaction are typically robust to endogeneity concerns.

VI. CONCLUSIONS

This paper provides some of the first evidence on the incidence and determinants of (perceived) racial harassment at the workplace and, through its association with reduced levels of job satisfaction, its impact on intentions to quit. We have used a large and informative survey of British NHS nurses collected in 1994, which over-samples those from ethnic minority backgrounds. Our results indicate that racial harassment is a considerable problem in the NHS. The majority of ethnic minority nurses in our sample report having experienced racial harassment from patients or their families and a substantial minority report having suffered such abuse from work colleagues. However, we need to emphasise that our findings are based on self-reported occurrences of perceived racial harassment rather than objectively identified episodes. Unfortunately, we know nothing about the correlation between these perceived and actual events. This is an important area for future research.

Our results indicate that Black and South Asian nurses, those with higher general qualifications or who are Registered General Staff nurses are the most likely to report frequent episodes of perceived racial harassment from work colleagues. In addition, this form of 'employee discrimination' is more likely to be reported by nurses who work for NHS hospital trusts or for employers who do not have an equal opportunities policy. Racial harassment by patients (or their families) is reported more frequently by Black and younger ethnic minority nurses, those working some night shifts and those in the care of the elderly or general medical specialties. Ethnic minority nurses employed by Family Health Service Authorities and working in high ethnic minority density regions report more frequent occurrences of such 'consumer discrimination'.

According to our estimates, the most important determinants of job satisfaction are having experienced racial harassment at the workplace and self-reported perceptions of having faced discrimination in promotion and training. Frequent episodes of perceived racial harassment from work colleagues have the largest detrimental effect on job satisfaction levels – they are seven times as likely to be very dissatisfied with their job than those who have never suffered such abuse. Those reporting frequent racial harassment from patients are four times as likely to be very dissatisfied with their job than those who report no racial harassment from this source. These findings suggest that these forms of

'employee discrimination' and 'consumer discrimination' significantly reduce individual nurse's utility from work with, with the former type having the largest effect.

Nurses who are very dissatisfied with their job, or are neither satisfied nor dissatisfied, have an increased probability of intending to quit the NHS, compared to nurses who are satisfied. We find that these quantitative impacts are robust to concerns of endogeneity in our models. Since perceived racial harassment is the quantitatively largest determinant of levels of job satisfaction, these findings suggest that reducing the frequency of such attacks, particularly from work colleagues, may play an important part in the struggle to retain nurses in the British NHS.

Several policy recommendations follow from this empirical investigation. They are:-

- (1) NHS employers should pay particular attention to the groups of nurses identified as being most at risk of racial harassment;
- (2) Rigorous monitoring of NHS working environments should be implemented as a priority;
- (3) Training should be given to ethnic minority nurses to enable them to effectively handle difficult encounters with patients (and their families);
- (4) Particular attention should be focused on workplaces with high concentrations of ethnic minority nurses.

APPENDIX A – SAMPLE CHARACTERISTICS

TABLE A1
SAMPLE CHARACTERISTICS

Explanatory Variable	ETHNIC MINORITY		WHITE		Min. Max.	
	Mean	Std. Error	Mean	Std. Error		
Individual characteristics						
Age < 30	0.067	0.007	0.206	0.004	0	1
Age 30–34	0.088	0.008	0.214	0.004	0	1
Age 35–39	0.116	0.009	0.165	0.004	0	1
Age 40–44	0.244	0.012	0.120	0.003	0	1
Age 45–49	0.253	0.013	0.121	0.003	0	1
Age 50+	0.232	0.012	0.168	0.004	0	1
Married	0.690	0.013	0.752	0.005	0	1
Male	0.165	0.011	0.066	0.003	0	1
Number of dependent child(ren) under 16 years	0.893	0.031	0.697	0.010	0	7
Black African	0.269	0.013	–	–	0	1
Black Caribbean	0.383	0.014	–	–	0	1
South Asian	0.158	0.011	–	–	0	1
South East Asian	0.190	0.013	–	–	0	1
Higher qualification (A level or degree)	0.204	0.012	0.206	0.004	0	1
Middle qualification (O level or equivalent)	0.564	0.014	0.643	0.005	0	1
No qualification	0.232	0.013	0.151	0.004	0	1
Job-related characteristics						
Weekly (gross) wage (£)	278.56	2.593	304.91	0.651	96.40	463.77
Nurse Manager (grades H and I)	0.062	0.007	0.063	0.003	0	1
Senior nurse (grades F and G)	0.370	0.014	0.373	0.005	0	1
Registered General Staff nurse (grades D and E)	0.314	0.013	0.370	0.005	0	1
State Enrolled Staff nurse (grades C, D, and E)	0.254	0.013	0.212	0.004	0	1
Currently employed part-time (< 35 hours)	0.219	0.012	0.380	0.005	0	1
Currently undertaking postbasic training	0.115	0.009	0.125	0.003	0	1
Number of completed postbasic training spells	0.954	0.034	0.895	0.012	0	12
Tenure in current post at current grade (in months)	113.36	2.380	77.34	0.781	0	396
Member of a trade union or professional body	0.934	0.007	0.938	0.003	0	1
Day shift pattern only	0.271	0.013	0.298	0.004	0	1
Mixed shift pattern with nights	0.450	0.012	0.344	0.005	0	1
Mixed shift pattern but with no nights	0.227	0.012	0.289	0.005	0	1
Other shift pattern but with no nights	0.052	0.007	0.069	0.003	0	1
Actual work shift pattern is not equal to preferred	0.438	0.014	0.387	0.005	0	1
Has some control over working shift and hours	0.647	0.013	0.776	0.004	0	1
Often participates in unpaid overtime	0.067	0.007	0.101	0.003	0	1
Often undertakes nursing tasks above grade	0.515	0.014	0.470	0.005	0	1
Often undertakes nursing tasks below grade	0.543	0.013	0.536	0.005	0	1
Faced discrimination in promotion and training	0.180	0.011	0.005	0.001	0	1
General medicine specialty	0.292	0.013	0.420	0.005	0	1
Paediatrics specialty	0.046	0.006	0.071	0.003	0	1
Mental health specialty	0.137	0.010	0.127	0.003	0	1
Mental illness specialty	0.198	0.011	0.069	0.003	0	1
Mental handicap specialty	0.072	0.007	0.021	0.002	0	1
Care of the elderly specialty	0.149	0.010	0.095	0.003	0	1
Primary and community specialty	0.166	0.011	0.200	0.004	0	1
Other specialty	0.024	0.004	0.036	0.002	0	1
Employer-related characteristics						
Employed by a General District Hospital	0.182	0.011	0.207	0.004	0	1
Employed by a Family Health Service Authority	0.043	0.006	0.080	0.003	0	1
Employed by an NHS Hospital Trust	0.775	0.012	0.713	0.005	0	1
Size of employer (in terms of nursing staff)	1134.01	19.30	1071.64	8.34	44	2915
Employer encourages human development activities	0.331	0.012	0.418	0.005	0	1
Equal opportunities policy at workplace	0.761	0.012	0.764	0.004	0	1

TABLE A1

SAMPLE CHARACTERISTICS (CONTINUED)

Percentage of ethnic minorities in region	11.76	0.247	-	-	0.43	25.64
Percentage of ethnic minority staff at workplace	26.31	0.511	-	-	1.1	65.4
South Thames	0.203	0.012	0.159	0.003	0	1
North Thames	0.300	0.013	0.148	0.004	0	1
East Anglia and Oxford	0.096	0.009	0.098	0.003	0	1
West Midlands	0.105	0.009	0.141	0.004	0	1
Trent	0.040	0.006	0.085	0.003	0	1
North West	0.063	0.007	0.130	0.004	0	1
North and Yorkshire	0.072	0.008	0.091	0.003	0	1
Other	0.121	0.009	0.155	0.004	0	1
Sample		1203		9220		

APPENDIX B – DERIVATION OF COMPARISON WAGE MEASURE

In order to calculate our measure of the 'comparison' wage for NHS nurses (i.e. what a ethnic minority nurse might expect to earn, on average, if employed in a comparable public sector profession) we have used data from the Quarterly Labour Force Survey (QLFS) of the United Kingdom undertaken in the Spring of 1994 (matching the date of the nursing survey). The QLFS, introduced in 1992, is a nationally representative survey whose principal aim is to produce a set of national (and regional) labour market statistics (mainly unemployment figures) for use by government departments. Each quarter approximately 64,000 households are surveyed eliciting information on some 160,000 individuals over the age of 16. A panel element is incorporated into the QLFS with each individual being interviewed over five successive quarters. Information on wages is only obtained from those about to leave the survey (or 20% of each quarters' sample). Selecting individuals in aged 21 to 60, in public sector employment (PUBLIC=2), in wave 5 (THISWV = 5), we obtained a sample of 1876 individuals. A comparison wage measure was constructed by estimating a simple log weekly wage regression for our sample of public sector employees, controlling for age (and age squared), gender, ethnicity, marital status, highest qualification, part-time status and region. Using the estimated parameters from this model, we mapped the predicted weekly wage, conditional on the same set of individual characteristics, into the nursing sample. This provides us with a continuous measure of the 'comparison wage', which we include as an additional covariate in the ordered probit job satisfaction models.

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NOTES

¹ Moreover, the importance of this issue is evident from the pages of the main nursing journals in Britain, such as the *Nursing Times* and *Nursing Standard*, which frequently contain articles focusing on racism in the nursing profession.

² We have calculated that there were approximately 35,000 non-white ethnic minority nurses employed in the NHS in 1994.

³ We have undertaken various searches of the economics literature in both the UK and US, and have been unable to find any published studies that have examined the impact of racial harassment at the workplace on labour market outcomes in the last 15 years. Similarly, there appears to be very little empirical research that has examined the impact of sexual harassment. One recent exception is Laband and Lentz (1998) who investigate the effects of sexual harassment on job satisfaction, earnings and turnover using a small sample ($n=176$) of female lawyers in the US.

⁴ In fact the Race Relations Act of 1976 does not use the term 'racial harassment'. However, Industrial Tribunals in Britain have become increasingly willing to conclude that this form of labour market behaviour represents 'less favourable treatment on racial grounds' and therefore constitutes unlawful racial discrimination (Commission for Racial Equality, 1995).

⁵ Between 1987 and 1995 the intake of school-leavers into nurse training fell from 19,600 to 14,200 per annum (Secombe and Smith, 1997). In terms of retention, a study using 1991 Census data found that only 68% of qualified nurses in England were employed in the profession. The remainder were working in other professions (16%) or inactive (15%) (Lader, 1995).

⁶ Note that even though the survey on which this study is based had a relatively high response rate of 62% it is possible that the sample is biased. It may be the case that those nurses who were least satisfied with their job and/or most likely to intend to quit the NHS were the most likely to return a survey questionnaire. If this is the case our results may over-state the extent of the latent retention problem. Moreover it may be the case that the most dissatisfied nurses have already left the NHS, which would result in our estimates of the effect of job satisfaction on quitting outcomes being biased downwards.

⁷ It may be the case that an equal opportunities policy exists, but that some individual nurses are not aware of that fact.

⁸ It is important to note that we are concerned in this paper with nurses' perceptions of racial harassment towards them, because it is these individual-specific perceptions that will impact on job satisfaction and quitting behaviour. Due to the legal ambiguities of defining racial harassment and since the majority of such attacks go unreported at the workplace (and few enter the industrial tribunal system), we do not know the extent to which perceived and actual racial harassment are related.

⁹ Our data set does not enable us to distinguish between educational qualifications obtained in the UK and those gained abroad.

¹⁰ We originally included eight regional control variables in the models. However, these were found to be statistically insignificant and have therefore been dropped from the estimates presented here.

¹¹ We have also estimated the racial harassment models using a pooled sample of white and ethnic minority nurses. We find, after controlling for other relevant characteristics, that ethnicity has the largest quantitative impact on the probability of reporting frequent harassment (from both sources), with each of the ethnic minority groups reporting significantly more racial harassment than white nurses. These results are available on request.

¹² For example, recent studies have focused on the marginal effect of individual characteristics such as gender (Clark, 1997; Ward and Sloane, 2001), age (Clark et al., 1996), race (Bartel, 1981) and education (Tsang et al., 1991) on job satisfaction. Other studies have concentrated on job and employer characteristics, identifying the effect of absolute wages and 'comparison' or 'relative wages' (Cappelli and Sherer, 1988; Clark and Oswald, 1996; Hampton and Heywood, 1999; Sloane and Williams, 1996), trade union status (Bender and Sloane, 1998; Gordon and Denisi, 1995; Meng, 1990), self-employment (Blanchflower and Oswald, 1998) and firm size (Idson, 1990) on reported job satisfaction levels.

¹³ This is nested in the 'total' utility function, $TU = tu(u(Y, H, RY, IND, JOB, EMP), u)$, where u is utility from work and U is utility from other sources and spheres of life (Clark and Oswald, 1996).

¹⁴ The impact of relative wages on job satisfaction is comparatively unexplored by economists compared to the other elements in (2). This is probably due to the difficulty in deriving a relative wage measure. A discussion of the various psychological theories that justify the inclusion of relative wages in job satisfaction models can be found in Clark and Oswald (1996).

¹⁵ This is akin to the debate about the effect of trade union membership on job satisfaction. If workplaces characterised by high levels of trade union membership also have better general work environments, then the exclusion of variables describing other aspects of the work environment will give biased (upwards) estimates of the effect of union membership on job satisfaction (see, for example, Gordon and Denisi, 1995).

¹⁶ As with the racial harassment estimates, we have found no statistically significant regional variations in job satisfaction. Consequently, the regional controls have been excluded from the models.

¹⁷ Over 80% of the sample indicated only one future employment intention. When the small group of nurses who indicated both 'STAYER' and 'QUITTER' intentions are excluded, and the results reported in Table 3 are qualitatively unchanged.

¹⁸ Reviews of the nurse turnover literature in Britain include Gray and Phillips (1992) and for the US include Tai et al. (1998).

¹⁹ Of course, economists are by no means the only group to study this relationship. We can also point to a substantial literature by psychologists, which has found a negative relationship between reported job satisfaction and quitting. Many of these studies, however, have been based on very small samples of employees with little conformity in the control variables used (Clark et al., 1999). McEvoy and Cascio (1985) and Carsten and Spector (1987) provide evidence from meta-analyses, and Steel and O'valle (1984), Hom et al. (1992) and Warr (1998) review the literature.

²⁰ For example, Gordon and Denisi (1995) use data from three public sector organizations in the US primarily to investigate the relationship between trade union membership and reported job satisfaction. They found, using one of their samples (721 full-time assistant, associate and full professors from Rutgers University collected in 1989-90) that job satisfaction was negatively and significantly related to intentions to quit. Their estimates suggest that increasing the job satisfaction index by one standard deviation reduces the average probability of intending to quit from 0.27 to 0.19, whilst a one standard deviation decrease in job satisfaction increased the quitting probability to 0.38.

²¹ If the EXTENDED model is estimated without vector EM P3, it is a significant improvement over the BASIC model.

²² This finding is not only due to nurses intending to leave for child rearing. When the model is estimated for male nurses alone, younger nurses are still significantly more likely to intend quitting the NHS.

²³ In this paper, we have modelled the impact of racial harassment on quitting behaviour as operating through a reduction in reported job satisfaction (interpreted as a loss of utility from work). An alternative approach would be to include both job satisfaction and racial harassment measures directly into the quitting model (See Laband and Lentz, 1998). When the model is estimated as such, the marginal effect of job satisfaction on quitting intentions is slightly reduced. However, the marginal effect of racial harassment, holding constant job satisfaction, becomes insignificant in the case of harassment from patients whilst the probability of intending to quit increases by 0.093 for frequent racial harassment from staff and by 0.055 in the case of infrequent harassment from this source.

²⁴ In theory we could estimate a four equation system, with separate equations for both forms of racial harassment. However, we do not have a suitable instrument set of instruments which can be used to distinguish between these two equations. In the models of Section II the only different covariates included in the two ordered probit models are ethnic density in the county (in the patient model) and at the workplace (in the work colleagues model). These two measures of density appear to be too highly correlated to act as identifying restrictions.

²⁵ The coefficients on the racial harassment indicators in the job satisfaction model, given the base category of no experience of racial harassment, were: -0.891 ($|t| = 3.132$) for frequent staff harassment; -0.259 ($|t| = 2.764$) for infrequent staff harassment; -0.553 ($|t| = 1.657$) for frequent patient harassment; and -0.095 ($|t| = -1.070$) for infrequent patient harassment. In the intentions to quit model the coefficients on the job satisfaction indicators, given the base category of very dissatisfied, were: -1.134 ($|t| = 4.602$) for satisfied; -0.344 ($|t| = 1.807$) for neither satisfied or dissatisfied; and -0.284 ($|t| = 1.382$) for dissatisfied. For the sake of brevity we do not present all the additional estimates. However, they are available from the authors on request.

REFERENCES

- AHLBURG , D . and BROWN MAHONEY , C . (1996). The effects of wages on the retention of nurses. *Canadian Journal of Economics*, 29, S126-S129.
- AKERLOF, G ., ROSE, A . and YELLEN , J. (1988). Job switching and job satisfaction in the US labor market. *Brookings Papers on Economics Activity*, 2, 495-582.
- AKINSANYA , J. (1988). Ethnic minority nurses, midwives and health visitors: what role for them in the National Health Services? *New Community*, 14, 444-50.
- AUDIT COMMISSION (1997). *Finders, Keepers. The Management of Staff Turnover in the NHS Trusts*. London: Audit Commission.
- BARTEL, A . (1981). Race differences in job satisfaction: a reappraisal. *Journal of Human Resources*, 16, 294-303.
- BAXTER, C . (1988). *The Black Nurse: An Endangered Species*. Cambridge, UK : Training in Health and Race.
- BEACON , S., VIRDEE, S. and HAGELL, A . (1995). *Nursing in a Multi-Ethnic NHS*. London: Policy Studies Institute.
- BECKER, G . (1957). *The Economics of Discrimination*. Chicago: University of Chicago Press.
- BENDER, K . and SLOANE, P. (1998). Job satisfaction, trade unions, and exit-voice revisited. *Industrial and Labor Relations Review*, 51, 222-40.
- BLACKABY, D ., CLARK, K ., LESLIE, D . and MURPHY, P. (1994). Black-white male earnings and employment prospects in the 1970s and 1980s. *Economics Letters*, 46, 273-79.
- _____, DRINKWATER, S, LESLIE, D and MURPHY, P. (1997). A picture of male and female unemployment among Britain's ethnic minorities. *Scottish Journal of Political Economy*, 44, 182-97.
- _____, LESLIE, D ., MURPHY, P and O'LEARY, N . (1998). The ethnic wage gap and employment differentials in the 1990s: evidence for Britain. *Economics Letters*, 58, 97-103.
- BLANCHFLOWER, D . and OSWALD, A . (1998). What makes an entrepreneur? *Journal of Labor Economics*, 16, 26-60.
- BROWN, D . and MCINTOSH, S. (1998). If you're happy and you know it... job satisfaction in the low wage service sector. Discussion Paper no. 405, Centre for Economic Policy Research, London.
- CAPPELLI, P. and SHERER, P. (1988). Satisfaction, market wages, and labor relations: an airline study. *Industrial Relations*, 27, 56-73.
- CARSTEN, J. and SPECTOR, P. (1987). Unemployment, job satisfaction, and employee turnover: a meta-analytic test of the Mutchinsky model. *Journal of Applied Psychology*, 72, 374-381.
- CLARK, A . (1996). Job satisfaction in Britain. *British Journal of Industrial Relations*, 34, 189-217.
- _____ (1997). Job satisfaction and gender: why are women so happy at work? *Labour Economics*, 4, 341-72.
- _____ (1999). What really matters in a job? Hedonic measurement using quit data. Unpublished paper, Université d'Orléans.
- _____ and OSWALD, A . (1996). Satisfaction and comparison income. *Journal of Public Economics*, 61, 359-381.
- _____, _____ and WARR, P. (1996). Is job satisfaction U-shaped in age? *Journal of Occupational and Organizational Psychology*, 69, 57-81.
- _____, GEORGELLIS, Y . and SANFREY, P. (1999). Job satisfaction, wage changes and quits: evidence from Germany. *Research in Labor Economics*, 17, forthcoming.
- COMMISSION FOR RACIAL EQUALITY . (1995). *Racial Harassment at Work: What Employers can do about it*. London: Commission for Racial Equality.
- DEPARTMENT OF HEALTH . (1998a). *Tackling Racial Harassment in the NHS a Plan for Action*. London.
- _____ (1998b). *Working Together: Securing a Quality Workforce for the NHS*. London.
- ELLIS, B. (1990). *Racial Equality: The Nursing Profession*. London: Kings Fund Equal Opportunities Task Force.
- FREEMAN, R . (1978). Job satisfaction as an economic variable. *American Economic Review*, 68, 135-41.
- GORDON, M . and DENISI, A . (1995). A re-examination of the relationship between union membership and job satisfaction. *Industrial and Labor Relations Review*, 48, 222-36.

- GRAY, A. and PHILLIPS, V. (1992). Explaining NHS staff turnover: a local labour market approach. London: London School of Hygiene and Tropical Medicine.
- GREENE, W. (1997). *Econometric Analysis*. 3rd Edition, Macmillan.
- HAMMERLISH, D. (1977). Economic aspects of job satisfaction. In O. Ashenfelter and W. Oates (eds.) *Essays in Labor Market Analysis*. New York: John Wiley.
- HAMPSON, M. and HEYWOOD, J. (1999). The determinants of perceived underpayment: the role of racial comparisons, *Review of Social Economy*, 57, 141-155.
- HANCOCK, R. (1999). Report of the RCN Autumn Conference, 20th October, 1999. General Secretary of the Royal College of Nursing.
- HOM, P., CARANIKAS-WALDER, F., PRUSSIA, G. and GRIFFETH, R. (1992). A meta-analytic structural equations analysis of a model of employee turnover. *Journal of Applied Psychology*, 77, 890-909.
- IDSON, T. (1990). Establishment size, job satisfaction and the structure of work. *Applied Economics*, 22, 1007-18.
- LABAND, D. and LENTZ, B. (1998). The effects of sexual harassment on job satisfaction, earnings, and turnover among female lawyers. *Industrial and Labor Relations Review*, 51, 594-607.
- LADER, D. (1995). *Qualified Nurses, Midwives and Health Visitors*. London: Department of Health.
- MCVOY, G. and CASCIO, W. (1985). Strategies for reducing employee turnover: a meta-analysis. *Journal of Applied Psychology*, 70, 342-53.
- MENG, R. (1990). The relationship between unions and job satisfaction. *Applied Economics*, 22, 1635-48.
- MERCER, G. (1979). *The Employment of Nurses: Nursing Labour Turnover in the NHS*. London: Croom Helm.
- MODOOD, T. BERTHOUD, R. et al. (1997). *Ethnic Minorities in Britain*. London: Policy Studies Institute.
- PARKER, C. and RICKMAN, B. (1995). Economic determinants of the labour force withdrawal of registered nurses. *Journal of Economics and Finance*, 19, 17-26.
- PHILLIPS, V. (1996). Nurses' labour supply: participation, hours of work, and discontinuities in the supply function. *Journal of Health Economics*, 14, 567-82.
- PUDNEY, S. and SHIELDS, M. (2000a). Gender, race, pay and promotion in the British nursing profession: estimation of a generalised ordered probit model. *Journal of Applied Econometrics*, 15, 367-399.
- _____ and _____ (2000b). Gender and racial differentials in pay and promotion for NHS nurses. *Oxford Bulletin of Economics and Statistics*, forthcoming.
- SECCOMBE, I. and SMITH, G. (1997). *Taking Part: Registered Nurses and the Labour Market in 1997*. University of Sussex: Institute for Employment Studies.
- SHIELDS, M. and HEATLEY PRICE, S. (1999). Ethnic differences in the incidence and determinants of employer-funded training in Britain. *Scottish Journal of Political Economy*, 46, 523-551.
- SCHUMACHER, E. (1997). Relative wages and exit behaviour among registered nurses. *Journal of Labor Research*, 18, 581-91.
- SLOANE, P. and WILLIAMS, P. (1996). Are 'overpaid' workers really unhappy? A test of the theory of cognitive dissonance. *Labour*, 10, 3-15.
- STEEL, R. and OVALLE, N. (1984). A review and meta-analysis of research on the relationship between behavioural intentions and employer turnover. *Journal of Applied Psychology*, 69, 673-86.
- TAL, T., BAME, S., ROBINSON, C. (1998). Review of nursing turnover research, 1977-1996. *Social Science and Medicine*, 12, 1905-24.
- THOMAS, M. and MORTON-WILLIAMS, J. (1972). *Overseas Nurses in Britain*. London: Political and Economic Planning.
- TSANG, M., RUMBERGER, R. and LEVIN, H. (1991). The impact of surplus schooling in work productivity. *Industrial Relations*, 30, 209-28.
- WARD, M. and SLOANE, P. (2001). Job satisfaction within the Scottish academic profession. *Scottish Journal of Political Economy*, forthcoming.
- WARR, P. (1998). Wellbeing and the workplace. In D. Kahneman, E. Diener and N. Schwartz (eds.), *Understanding Quality of Life: Scientific Perspectives on Enjoyment and Suffering*. New York: Russell Sage.