1. <u>INTRODUCTION</u>

Job satisfaction among males and females has been a hot topic for debate in recent years. It has also piqued the interest of various economists, psychologists and sociologists who have conducted numerous studies to evaluate the factors that influence the level of job satisfaction among males and females.

Clark (1997) used the British Household Panel Survey to compare job satisfaction among males and females and observed that the latter in general tend to have higher job satisfaction when compared to the former. The reason for higher levels of job satisfaction was not found to be individual characteristics like age, health, marital status etc. or job characteristics like work values, pay, working conditions etc. His study explained the difference in satisfaction levels due to the lower expectations of females because of their poor experiences in the past. This involved the introduction of an explicit variable measuring the income against which workers might compare their own income. While this helped to explain levels of job satisfaction to some extent, the gender differential remained significant. Another approach involved analysing the relationship between the gender satisfaction differential and variables which are likely correlated with workers' expectations. This resulted in the fading away of gender differential for younger workers, higher-educated workers, those in professional or managerial positions, those whose mothers had a professional job, and those working at male-dominated workplaces. Sousa-Poza and Sousa-Poza (2003) further analysed the same study using probit regression analysis. Their paper was in support of what Clark (1997) observed. They concluded that the gender differential is on a downward trend, however this was mainly due to reduced levels of job satisfaction among females as the levels remained more or less constant for males. Sloane and Williams (2000) used the 1986 UK Social and Economic Life Initiative (SCELI) household survey to study the gender differentials in job satisfaction levels. Once again, the levels for females were discovered to be higher than males. Their study argues the degree of job option accessible while looking for a job and whether there is a lot of choice or discretion at work as well as employer-employee relations have a substantial impact on levels of happiness for males and females. Moreover, while prospects of job security and promotion were essential for males, it was the same for the females.

Sousa-Poza and Sousa-Poza (2000a) observed the gender differentials in job satisfaction for 21 counties using the International Social Survey Program (ISSP) data set. They found that the differential was higher than five percent only in five countries – United Kingdom, United States of America, Hungary, New Zealand and Spain. In the first four, females had higher satisfaction, while in Spain, it was the males. They argued that in countries like the United Kingdom, females tend to have a higher sense of job security, enjoy healthy relationships with their managers. Five more European countries were found to have a similar case. On the other hand, they also found that compared to males, females found the work more challenging and the number of latter who considered that their jobs paid well was much less than that for the males. This was especially the case in Spain.

Jones and Sloane (2009) also studied job satisfaction using BHPS data set. For their research, they divided Great Britain into four regions – London, South Ease, Rest of England, Wales and Scotland and the used a probit model for their analysis. using a dummy variable, they found that people living, not born, in Wales had the highest satisfaction levels. The ones who were not satisfied tend to move out of the region thereby, further increasing the average satisfaction levels. When they looked at the gender differentials, they also observed that females projected higher job satisfaction than males. While pay did not affect the satisfaction levels of women significantly, it did so for the males. However, they argued that if age and education were omitted from their model, pay became a significant factor for females as well in all four regions. They also observed that males tend be more satisfied in privates sector jobs than public sector jobs whereas it was the other way round for females.

Lup (2018) focused her study on job satisfaction due to promotion to managerial positions. She also observed that promotion to lower or higher managerial positions did not affect satisfaction levels of females while they had a positive impact for males. Furthermore, she claimed that the satisfaction levels for males stayed higher even after one year of promotion whereas for females there was a dip.

In this paper, we are going also going to use the British Household Panel Survey Data to analyse the factors affecting job satisfaction for males and females and whether they are the same for both or not.

2. THE DATA SET

As mentioned before, for our study, we will make use of the British Household Panel Survey (BHPS) dataset. This multi-purpose survey was started in 1991 as a household survey. It has been following the same sample for a long period of time. Its sample size covers over 5000 households and over 10000 individuals from various areas of the United Kingdom including Scotland, Wales and Northern Ireland. It provides socially and economically relevant data such as age, sex, income, life satisfaction, unemployment etc.[1] This dataset was also used by Clark (1997), Sousa-Poza and Sousa-Poza (2003), Jones and Sloane (2009) and many other. The dataset does have its limitations, however. For example, a lot of respondents did not respond to certain questions in the questionnaire because of which we had to filter out our dataset thus reducing our sample size.

To measure job satisfaction in this study, we will use a mixture of individual and work-related characteristics. The individual characteristics include age, sex and highest educational achievement of the person while the work-related characteristics include income, working hours, job security, the work itself and prospects of promotion. We will use the first seven waves of the data set, i.e., data ranging from 1991 to 1997 since the data regarding promotion prospects was only available until the seventh wave. The BHPS asked the participants to rate their level of job satisfaction on a scale ranging from 1 to 7, where 1 meant being not satisfied at all and 7 meaning completely satisfied (Clark, 1997).

JOB SATISFACTION RANK	1991	1992	1993	1994	1995	1996	1997
1	3.95	2.57	2.09	2.57	2.01	1.28	1.83
2	2.07	3.55	3.17	3.68	3.40	3.04	2.29
3	5.64	7.58	8.70	8.95	7.92	8.38	6.59
4	14.40	8.90	10.06	9.83	10.25	10.18	8.27
5	21.25	20.08	21.49	21.57	22.68	22.07	25.36
6	27.63	41.05	40.53	40.17	41.70	42.90	41.94
7	25.05	16.27	13.96	13.24	12.04	12.15	13.72

Table 1: *Proportion of males, as a percentage of total male respondents, belonging to different job satisfaction levels from 1991-1997.*

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[1] "BHPS." Institute for Social and Economic Research (ISER), 17 Aug. 2022, https://www.iser.essex.ac.uk/bhps.

JOB SATISFACTION RANK	1991	1992	1993	1994	1995	1996	1997
1	2.78	1.08	1.81	1.34	1.90	1.74	1.75
2	1.51	1.61	1.85	2.60	2.31	2.06	2.23
3	3.32	4.46	5.15	5.85	5.82	5.58	5.11
4	10.63	5.54	4.91	5.89	6.07	6.29	5.94
5	16.93	16.26	16.90	18.58	19.66	18.98	18.74
6	26.21	45.36	46.87	43.86	44.53	46.38	45.64
7	38.62	25.69	22.51	21.87	19.70	18.98	20.59

Table 2: *Proportion of females, as a percentage of total female respondents, belonging to different job satisfaction levels from 1991-1997.*

Table 1 shows us how different proportions of males rank their level of job satisfaction as a percentage of total male respondents while table 2 does the same of females. If we look at the lowest rank, i.e., Rank 1 we see that in the initial years, there are relatively more males who are completely dissatisfied with their jobs. However, as years passed by this proportion kept falling for males and increased for females. The tables also suggest that a higher proportion of male respondents rank themselves into higher satisfaction levels like Rank 5 and 6 as compared to females. All of this might suggest that males in general enjoy higher job satisfaction than females. However, interestingly when we observe Rank 7, which is the highest rank of all, we find that a higher proportion of females consider themselves to be completely satisfied than the males do. The data at the extreme points suggest two completely different outcomes. To overcome this problem, let us look at the mean scores from different job-related factors that might influence job satisfaction of a person.

Job Related Factors	Mean Scores	
	Females	Males
Job Satisfaction from Promotion Prospects	3.68	3.85
Job Satisfaction from Total Pay	4.75	4.51
Job Satisfaction from Job Security	5.30	4.98
Job Satisfaction from Hours Worked	5.43	5.02
Overall Job Satisfaction	5.61	5.26

Table 3: *Mean scores of factors affecting job satisfaction.*

Table 3 gives insight about the potential factors that affect job satisfaction for employed individuals in the form of mean scores, ranging again from 1 to 7 of those factors over a period of seven year (1991-1997). The data indicates that, females exhibit higher job satisfaction levels from all of the factors that have been considered especially in terms of total pay and job security. They also have a higher mean score of overall job satisfaction of 5.61 compared to 5.26 of the male respondents.

2.1 THE VARIABLES

- Age: The first variable that we have considered here is the age of the respondent. We want to see how the job satisfaction ratings of people change as they grow older. To analyse this, we also introduce "age squared" (Age2) as to se whether old age has the same effect on job satisfaction or not. For our study, we filtered the data to include people belonging to the age group between 16 years of age and 64 years of age, i.e., people above the minimum full time working age and below the forced retirement age at the time.[23]

- Promotion Prospects: Promotion prospects simply mean the likelihood of getting promotion in a job. This has been used as an explanatory variable in almost all previous literature (Clark, 1997; Sousa-Poza and Sousa-Poza, 2003; Williams, 2000; Lup, 2018). In this variable, the values range between 1 and 7 as the respondents were asked to rate their job satisfaction only due to prospects of promotion on a scale of 1 to 7 (Clark, 1997).

- Total Pay: Pay received from work is a matter of significance not just for the people who work but also for employers. It is directly responsibly for meeting the financial needs of the workers. Singh and Loncar (2010), also state that it affects the way an employee might function. Judge, Piccolo, Podsakoff, Shaw and Rich (2010) also found a strong positive relation between job satisfaction and the pay received by an employee. In our data set, the values of pay range between 1 and 7 as the respondents were asked to rate their job satisfaction only due to the total pay that they receive on a scale of 1 to 7 (Clark, 1997).

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[2] https://www.gov.uk/child-employment
[3] https://www.gov.uk/state-pension-age

- <u>Job Security:</u> No discussion about job satisfaction can ever be complete without talking about the job security. Souza-Poza and Souza-Poza (2000b) found that job security considerably raises and individual's sense of job satisfaction. Similar results were also found by Nikolaou, Theodossiou and Vasileiou (2005). Once again, the values of this variable range between 1 and 7 as the respondents were asked to rate their job satisfaction only due to prospects of promotion on a scale of 1 to 7 (Clark, 1997).

- <u>Hours Worked:</u> Working hours has been a topic of argument for decades. Clark (1997) found that their impact on females in quite large but is close to insignificant for the males.

- <u>Educational Qualifications:</u> Educational qualifications have always proved to be importance when it comes to getting a job. It is a well-known fact that people who have degrees from a university find it easier to get jobs than people who don't. Vila and García-Mora (2005) unsurprisingly found positive impact of education qualification levels on job satisfaction levels. For our study, we have created the following qualification dummies:
  <u>Q1:</u> 1st degree or higher.
  <u>Q2:</u> Higher National Certificates (HNCs), Higher National Diplomas (HNDs)
  <u>Q3:</u> A-Levels
  <u>Q4:</u> O-Levels
  <u>Q5:</u> Certificate of Secondary Education (CSE)
  <u>Q6:</u> None of the Qualifications

- <u>Health Status:</u> A healthy worker is always considered to be an asset by any firm or employer that employs the worker. Thus, it was not surprising to find that Faragher, Cass and Cooper (2005) reported that improved health conditions among employees always led to higher job satisfaction among them. We have used health dummies to understand the effect of health on job satisfaction:
  <u>H1:</u> Excellent or Good health condition
  <u>H2:</u> Fair health condition
  <u>H3:</u> Poor health condition

2.2 THE MODEL

After finalising the variables, we can now set up our model to conduct the regression analysis. We have the following multivariate setup:

$y^*_{it} = \beta_1 Age_{it} + \beta_2 Age^2_{it}\ \beta_3 Promotion\ Prospects_{it} + \beta_4 Total\ Pay_{it} + \beta_5 Job\ Security_{it} + \beta_6 Hours\ Worked_{it} + \alpha_1 Qualification\ dummies_{it} + \alpha_2 Health\ Dummies_{it} + error\ term_{it}$

Here, y_i is the level of job satisfaction at time t which is unobserved.

We will use this model to conduct two separate regression analysis for both males and females. The first will be a simple generalised probit linear regression while the other will be an ordered probit regression. Our main focus will be on the ordered probit regression model since most of our data is in cardinal form, ranked from 1 to 7.

The inclusion of variables based on individual characteristics such as age, health status and educational qualifications help us deal with unobserved heterogeneity by acting as control variables in our model. The regression analysis will show that they have a direct impact on job satisfaction levels as well. The regression is done using RStudio (the script and log files are not included but uploaded on Faser)

3. RESULTS

The results of the regression analysis are presented in tables 4, 5, 6 and 7. Tables 4 and 5 present results of linear regression and ordered probit for females while table 6 and 7 do the same for the males.

Both, linear regression and ordered probit show that the age coefficient for females (tables 4 and 5) is negative and that of age squared is positive. This suggests that as the female workers get older, their job satisfaction declines. The same pattern can also be observed for the males (tables 6 and 7). This effect is just marginally higher for the males. This is in tandem to what was also noticed by Sousa-Poza and Sousa-Poza (2003).

Promotion prospects seem to have a positive impact on both males and females. However, the significance of promotional prospects appears to be much higher for the males than the females as suggested by both the linear

regression model and the ordered probit model. Our results are coinciding with those of Clark (1997), Sousa-Poza and Sousa-Poza (2003), Williams (2000) and Lup (2018).

The total pay received by both female and male workers have the highest regression coefficient as per the ordered probit model. Although it is slightly higher for the males, yet it has as a significance for both males and females. While this inference is parallel to that of Piccolo, Podsakoff, Shaw and Rich (2010) it is not so with Clark's (1997), Jones and Sloane (2009) and Sousa-Poza and Sousa-Poza (2000a) who found that it is only the males who considered pay to be a significant factor for their job satisfaction.

Coefficients:						
	Estimate	Std. Error		z-value		Pr(>|z|)
(Intercept)	-0.1336	0.3079		-0.4340		0.6644
Age	-0.0355	0.0159		-2.2360		0.02538**
Age2	0.0005	0.0002		2.4480		0.01436**
Promotion Prospects	0.1164	0.0140		8.3080		<0.0000000000000002
Total Pay	0.1643	0.0162		10.1660		<0.0000000000000002
Job Security	0.1368	0.0135		10.1580		<0.0000000000000002
Hours Worked	0.1894	0.0156		12.1060		<0.0000000000000002
Q1 – 1st Degree or higher	0.1859	0.0978		1.9010		0.05727*
Q2 – HNCs/HNDs	0.4976	0.1926		2.5840		0.0098***
Q3 – A-levels	-0.0475	0.0858		-0.5540		0.5798
Q4 – O-levels	0.5980	0.2215		2.7000		0.0069***
Q5 – CSE	0.0060	0.0936		0.0640		0.9486
Q6 – No Qualification	0.1499	0.0791		1.8940		0.05819
H1 – Excellent/Good	0.2266	0.0989		2.2910		0.0220*
H2 – Fair	0.3104	0.1142		2.7180		0.0066***
H3 – Poor/Very Poor	NA	NA	NA	NA		

*Table 4: Probit Linear Regression Results for Females. *significance at 5% level, **significance at 1% level, ***significance at 0.1% level*

Coefficients:			
	Value	Std. Error	t-value
Age	-0.0256	0.0024	-10.8970
Age2	0.0004	0.0000	11.9390
Promotion Prospects	0.0689	0.0037	18.8290
Total Pay	0.1772	0.0053	33.6830
Job Security	0.1670	0.0049	33.8580
Hours Worked	0.3365	0.0059	56.6490
Q1 - 1st Degree or higher	-0.3273	0.0259	-12.6290
Q2 - HNCs/HNDs	-0.0922	0.0127	-7.2390
Q3 - A-levels	-0.2039	0.0241	-8.4560
Q4 - O-levels	-0.0233	0.0120	-1.9350
Q5 - CSE	-0.2787	0.0255	-10.9250
Q6 - No Qualification	-0.1808	0.0194	-9.3470
H1 - Excellent/Good	0.0655	0.0184	3.5550
H2 - Fair	-0.0640	0.0062	-10.2620

Intercepts:			
	Value	Std. Error	t-value
1|2	0.5434	0.0031	176.873
2|3	0.9875	0.0047	211.9696
3|4	1.5671	0.021	74.5541
4|5	2.0134	0.0232	86.615
5|6	2.8279	0.025	113.102
6|7	4.3587	0.0283	153.8769

Table 5: Ordered Probit Regression Results for Females.

Coefficients:				
	Estimate	Std. Error	z-value	Pr(>|z|)
(Intercept)	0.1083	0.3079	0.3520	0.7251
Age	-0.0526	0.0154	-3.4100	0.0006
Age2	0.0007	0.0002	3.6340	0.0003
Promotion Prospects	0.1306	0.0147	8.8830	<0.0000000000000002
Total Pay	0.1951	0.0170	11.4970	<0.0000000000000002
Job Security	0.1742	0.0136	12.8000	<0.0000000000000002
Hours Worked	0.1638	0.0154	10.6060	<0.0000000000000002
Q1 – 1st Degree or higher	0.3316	0.0993	3.3400	0.0008
Q2 – HNCs/HNDs	0.2162	0.2377	0.9090	0.3631
Q3 – A-levels	0.1632	0.0759	2.1510	0.031474**
Q4 – O-levels	0.1474	0.4539	0.3250	0.7453
Q5 – CSE	0.2560	0.0904	2.8310	0.004642***
Q6 – No Qualification	0.0838	0.0749	1.1180	0.2635
H1 – Excellent/Good	0.1606	0.1135	1.4160	0.1569
H2 – Fair	-0.0169	0.1227	-0.1370	0.8907
H3 – Poor/Very Poor	NA	NA	NA	NA

*Table 7: Probit Linear Regression Results for Males. *significance at 5% level, **significance at 1% level, ***significance at 0.1% level*

Coefficients:			
	Value	Std.Error	t-value
Age	-0.0286831	2.40E-03	-11.9331
Age2	0.0004305	3.55E-05	12.1109
Promotion Prospects	0.1019942	4.23E-03	24.0987
Total Pay	0.2108021	5.61E-03	37.5805
Job Security	0.1930032	5.01E-03	38.5467
Hours Worked	0.2894437	5.80E-03	49.8979
Q1 – 1st Degree or higher	-0.2064637	2.72E-02	-7.6045
Q2 – HNCs/HNDs	-0.3415155	6.47E-03	-52.8177
Q3 – A-levels	-0.1961303	2.34E-02	-8.3836
Q4 – O-levels	0.1874203	9.36E-04	200.2678
Q5 – CSE	-0.2443756	2.60E-02	-9.41
Q6 – No Qualification	-0.1415396	2.34E-02	-6.0471
H1 – Excellent/Good	0.0778502	1.24E-02	6.2947
H2 – Fair	-0.0070605	1.17E-02	-0.6012

Intercepts:			
	Value	Std.Error	t-value
1|2	0.4892	0.004	121.5796
2|3	1.0106	0.011	92.1969
3|4	1.6919	0.0216	78.2188
4|5	2.2597	0.0236	95.5699
5|6	3.1461	0.0256	123.0768
6|7	4.7017	0.03	156.9642

Table 7: Ordered Probit Regression Results for Males.

Our model suggests that job security is also an essential factor of measuring job satisfaction for both males and females. Though it is much higher for males than for females. This supports the findings of Clark (1997).

The number of hours worked also considerably impact the satisfaction levels of both females and males, but the females seem to assign working hours much more importance than the males. Similar conclusions were also found by Clark (1997). Thus, implying that if the female employees are happy with their working hours, they are very likely to report higher job satisfaction scores.

As for the educational qualifications, linear regression (table 4 and 6) suggests that people with either A-levels or degrees seem to enjoy higher job satisfaction, the ordered probit model indicates something completely different. The latter tells us that these qualifications have a negative impact on

their satisfaction levels. Clark (1997) suggested that is that higher educational qualifications come with higher expectations in terms of pay and working conditions as one of the possible reasons for this negative effect.

As anticipated by us earlier, excellent and good health conditions correspond to higher satisfaction levels (Faragher, Cass and Cooper, 2005). Both linear regression and ordered probit models point towards the same conclusions. However, the probit model indicates that for both male and female workers, a "fair" health condition negatively impacts job satisfaction levels.

4. <u>CONCLUSION</u>

To measure job satisfaction, we tried both probit linear regression model and an ordered probit model. The BHPS dataset used by us, has its limitations, yet was an appropriate choice for our models. The choice of individual characteristic variables that we selected also helped us to tackle unobserved heterogeneity. Most of the outcomes from our models, are in line with the previous literature that we reviewed for our study especially with Clark (1997) and Sousa-Poza and Sousa-Poza (2003). However, they provide some intriguing insights in relation to the descriptive statistics that we provided earlier on (Table 3). The mean scores propose that females have higher mean scores than males for the total pay they receive and job security. On the other hand, the regression analysis tells us that males value both of them much higher than their female counterparts. Apart from promotion prospects, females enjoy higher satisfaction from almost all factors that we considered in our analysis. One of the probable reasons suggested by Clark (1997) is that higher job satisfaction levels among females is not because they have better jobs, but probably because of their gloomy past in this aspect, their aspirations from their jobs might be less than the male workers. He further asserted that this is just a "transitory phenomenon", and the satisfaction scores are likely to converge as time goes by which has also been backed by Sousa-Poza and Sousa-Poza (2003).

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