

The Moderating Role of Gender in the Relationship Between Hourly Pay and Job-Related Well-Being

Taanya Kapur

Department of Psychology

New York University

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Abstract

This study examines the relationship between self-reported hourly wages and job satisfaction, with a focus on gender as a potential moderator. Using data from the UK Household Longitudinal Study (UKHLS), we analyzed responses from participants who provided complete information on hourly wages, job satisfaction, and gender. Job satisfaction was measured using a reversed well-being scale, where higher scores indicate lower levels of depression. Results from linear regression analysis suggest that while hourly wages have a slight negative relationship with job satisfaction, this relationship is not statistically significant. Furthermore, gender does not appear to moderate this relationship. These findings contribute to our understanding of the complex factors influencing job satisfaction and highlight the need for further research into non-monetary aspects of job satisfaction.

1 Introduction

Given the media's increased focus on the gender pay gap in recent times, the discourse around the various ways in which gender dynamics influence aspects of work life has increased substantially.

While the effect on gender discrimination is clear in certain material aspects like the clear evidence of differences in salary, the influence this has on mental health and well-being is yet to be explored in-depth. In general, job satisfaction is a crucial factor in workplace well-being and productivity. While conventional wisdom often suggests a positive relationship between pay and job satisfaction, research findings have been mixed. This study aims to investigate the relationship between hourly wages and job satisfaction, with a particular focus on how gender dynamics can affect this relationship.

The literature reveals complex relationships between pay, job satisfaction, and gender. Clark and Oswald (1996) and Maharjan (2019) found positive correlations between pay and job satisfaction, while Sloane and Williams (2000) emphasized pay's importance, particularly for male employees. However, the "gender-job satisfaction paradox" (Clark, 1997; Bender et al., 2005) suggests women often report higher job satisfaction despite lower pay, possibly due to differing expectations. Gender's role as a moderator has yielded mixed results. Ng and Sorensen (2008) found no significant moderating effect of gender on the relationship between supervisor support and job satisfaction. However, Andrade (2019) highlighted that men prioritize extrinsic rewards like pay, while women value intrinsic rewards more, suggesting potential gender-based variations in how pay impacts job satisfaction. Maharjan (2019) observed that male respondents were more satisfied with their jobs than females when earning higher salaries, indicating a stronger link between pay and satisfaction for men. Similarly, Konrad et al. (2000) found that men placed greater emphasis on extrinsic rewards like salary compared to women.

Based on this literature, the hypothesize this study aims to explore is: There will be a positive relationship between hourly wages and job satisfaction. Gender will moderate the relationship between hourly wages and job satisfaction, with the effect being more pronounced for males.

Specifically, lower pay will have a more negative impact on job satisfaction for men compared to women.

This study uses data from the UK Household Longitudinal Study (UKHLS) to examine these hypotheses and contribute to our understanding of how gender influences the relationship between pay and job satisfaction.]

2 Methods

2.1 Participants

I collected pre-existing data from the UK Data Service portal, requiring special access due to the sensitive nature of the dataset. The study utilized data from the "Understanding Society: The UK Household Longitudinal Study" (UKHLS), a large-scale panel survey that tracks individuals in UK households over time across England, Scotland, Wales, and Northern Ireland. For the purposes of this research, we specifically used data from Wave 14, which was released in November 2024 and was the most recent wave at the time of analysis. Wave 14 included new measures on job satisfaction and well-being, making it the focal point of this investigation. Data collection for Wave 14 spanned from January 2022 to November 2024 and included a combination of face-to-face interviews and online survey responses.

My sample was restricted to adult participants aged 16 and older who completed the Wave 14 survey. Participants who were self-employed, as well as those with invalid or missing hourly wage data (coded as -7, -8, or -9), were excluded from the analysis. Sex was coded as binary (1 = male, 2 = female), as this categorization was essential for addressing the research questions. Additionally,

individuals who responded N/A or ‘Not sure’ to the key questions related to employment status, job-related well-being or sex were removed to ensure the reliability of the data pertaining to this analysis. The final sample consisted of 4,107 participants. 39.4% identified themselves as male and 60.6% as female. This sample represents employed individuals within the UK who provided valid responses to all relevant variables.

2.2 Measures

For this study, pre-existing datasets from Wave 14 of the Understanding Society: UK Household Longitudinal Study (UKHLS) were utilized. Wave 14 was conducted between 2022 and 2024 and employed a mixed-mode approach to data collection, including face-to-face interviews, telephone interviews, and online surveys. This methodology ensured comprehensive coverage and demographic representation across the UK population through stratified sampling. Initially, the population was divided into strata based on key variables such as geographic regions and socio-economic indicators. Within each stratum, primary sampling units (PSUs), typically postcode sectors, were selected. Subsequently, households within these PSUs were chosen for participation.

Participants were interviewed in their homes or completed surveys online, with all participants providing informed consent prior to participation. The collected data were digitally recorded and securely stored, adhering to strict data protection protocols to maintain participant confidentiality and data integrity. This study specifically focused on measures of hourly pay, job-related well-being (depression subscale), and demographic variables such as sex and age. Only employed participants with valid hourly wage data were included in the analysis.

Ethical protocols for data collection adhered to strict confidentiality and data protection stan-

dards, including secure digital recording and storage of responses. These protocols complied with the ethical guidelines set by the UK Data Service and the Economic and Social Research Council (ESRC), ensuring that participant privacy and data integrity were maintained throughout the study.

2.3 Procedure

The current study utilized data from Wave 14 of the Understanding Society: UK Household Longitudinal Study (UKHLS), which included measures relevant to the research objectives. Three key variables were analyzed:

Sex: Respondents answered the question: "Given sex of participant." Responses were initially coded into categories: 'Male,' 'Female,' 'Other,' 'Non-binary,' and 'Not valid or missing.' For the purposes of this study, only binary categories (Male and Female) were retained for analysis. Male was designated as the reference group, coded as 1, while Female was coded as 2. Male was left as the default reference group because the hypothesis aimed to examine differences in the relationship between job-related well-being and pay relative to males as the baseline comparison.

Basic Hourly Pay Rate: Participants answered the question: "What is your hourly wage?" This variable was initially recorded as a continuous measure. To enhance analytical clarity, pay rates were divided into four intervals based on percentile thresholds: Interval 1: Bottom 25 percentile (minimum wage: 11.4 GBP/hour or less), Interval 2: 26th–50th percentile, Interval 3: 51st–75th percentile, Interval 4: Top 25 percentile . Dividing pay into intervals provided a structured approach to examining economic strata while maintaining clarity for statistical analysis. Additionally, pay was mean-centered to reduce multicollinearity in the interaction term between pay and sex, facilitating clearer interpretation of coefficients. Centering also made the intercept represent

the average pay value, providing a more meaningful baseline for analysis.

Job-Related Well-Being (Depression Subscale): The job well-being variable was measured using the question: "How satisfied are you with your job?" The original scale ranged from 1 (most depressed) to 13 (least depressed). For intuitive interpretation, the scale was recoded such that 1 represented the least depressed and 13 represented the most depressed. Cases coded as 'invalid,' 'missing,' 'unemployed,' or 'not applicable' were excluded from analysis. These measures provided a structured approach to analyzing the relationship between sex, economic outcomes, and well-being using UKHLS data. Recoding, centering, and interval assignments adhered to established statistical protocols to ensure the validity and reliability of results.

3 Results

3.1 Descriptive Statistics

Table 1: Descriptive Statistics for Study Variables

Variable	N	Mean	SD
Basic pay hourly rate (in GBP)	4107	12.70	23.01
Job Wellbeing Scale (Reversed Subscale)	4107	10.924	2.79
Pay Rate Intervals	4107	1.70	0.59
Recoded Depression Scale (1=Least Depressed, 13=Most Depressed)	4107	10.89	2.79

3.2 Correlations

Table 2: Correlations Among Study Variables

Variable	1	2	3
1. Basic pay hourly rate	–	–.011	–.042**
2. Depression Scale	–.011	–	–.002
3. Sex (1=Male, 2=Female)	–.042**	–.002	–

**Correlation is significant at the 0.01 level (2-tailed).

The table presents the correlations among the study variables: basic pay hourly rate, depression scale, and sex (coded as Male = 1, Female = 2). Basic pay hourly rate is negatively correlated with sex ($r = -0.042$, $p < 0.01$), indicating a statistically significant but small association. No significant correlations are observed between the depression scale and the other variables.

3.3 Regression Analysis

Table 3: Regression Analysis Predicting Job-Related Wellbeing (Depression Subscale)

Predictor	B	SE	Beta	t	p
(Constant)	10.924	0.151	–	72.467	< .001
Pay Rate Centered	–0.260	0.250	–0.055	–1.040	0.299
Sex (1=Male, 2=Female)	–0.015	0.090	–0.003	–0.170	0.865
Pay Rate × Sex Interaction	0.170	0.151	0.059	1.124	0.261

A linear regression analysis was conducted to examine the effects of basic hourly pay, gender, and their interaction on depression levels, as measured by the Recoded Depression Scale (1 = Least Depressed, 13 = Most Depressed). The predictors in the model included the centered hourly pay variable (*n_pay_centered*), gender (*Sex*), and their interaction term (*payxsex*). The dependent variable was the Recoded Depression Scale.

Main Effects

Hourly Pay (*n_pay_centered*):

The effect of hourly pay on depression levels was negative but non-significant, $B = -0.260$, $SE = 0.250$, $\beta = -0.055$, $t = -1.040$, $p = .299$. This indicates that higher hourly pay is not significantly associated with lower depression scores in this sample.

Gender (*Sex*):

The effect of gender (coded as Male = 1, Female = 2) on depression levels was also non-significant, $B = -0.015$, $SE = 0.090$, $\beta = -0.003$, $t = -0.170$, $p = .865$. This suggests no significant difference in depression levels between males and females.

Interaction Term (*payxsex*):

The interaction between hourly pay and gender on depression levels was non-significant, $B = 0.170$, $SE = 0.151$, $\beta = 0.059$, $t = 1.124$, $p = .261$. This indicates that the relationship between hourly pay and depression does not significantly differ based on gender. The regression model was not statistically significant overall, $F(3,4103) = 3.351$, $p = .731$, explaining no meaningful variance in depression levels, $R^2 = .018$, Adjusted $R^2 = .000$.

Figure 1: Graphing the interaction of hourly pay and gender on depression levels.

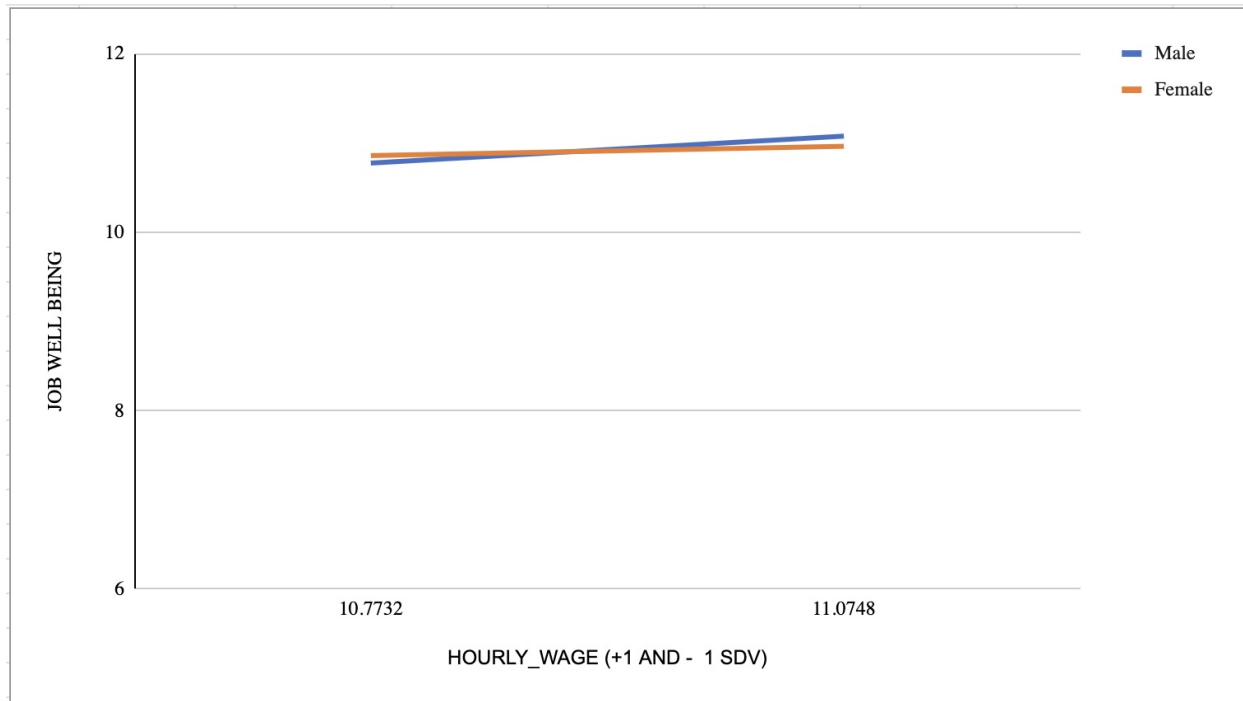


Figure 1: Interaction of Hourly Pay and Gender on Depression Levels.

3.4 Additional Analysis: Lower Pay Rate Intervals

To further investigate the relationship between hourly pay and job-related well-being, an exploratory analysis was conducted within the lower pay rate intervals (1 and 2). This subset accounted for 95.5% of the sample. A linear regression model was run for participants within pay intervals 1 and 2, with depression levels as the dependent variable, and gender, centered hourly pay, and their interaction as predictors. The results showed no significant main effects or interaction terms within this subset, consistent with the findings from the full sample. Specifically, hourly pay remained negatively but non-significantly associated with depression levels ($B = -0.180$, $p = .392$). Gender and the interaction term were also non-significant ($B = 0.025$, $p = .845$; $B = 0.140$, $p = .290$ respectively).

4 Discussion

4.1 Analysis

The primary goal of this study was to examine whether gender moderates the relationship between hourly pay and job-related well-being. Specifically, we hypothesized that higher pay would be associated with better well-being (lower depression) and that this relationship might differ between men and women. The results, however, did not support these hypotheses. While there was a slight negative association between hourly pay and depression (indicating that higher pay was linked to slightly lower depression), the effect was not statistically significant (Table 3.3). Similarly, gender, coded as Male = 1 and Female = 2, was not significantly associated with job satisfaction or well-being, and there was no significant interaction between pay and gender. This lack of significant findings suggests that, within this sample, neither pay nor gender substantially influenced depression levels or job-related well-being.

Interestingly, the correlation analysis (Table 2) revealed a statistically significant association between gender and pay ($r = -0.042$, $p < 0.01$), with men reporting slightly higher wages than women. However, this effect was minor compared to what is typically reported in the broader literature, which often highlights a more pronounced gender pay gap. This finding could reflect a limitation in the sample or methodology, suggesting that the gender bias in pay observed here may not fully capture real-world disparities and could be a result of sample composition or self-reported data.

The lack of significant findings is further evident in the interaction graph (Figure 1), where the lines for males and females are nearly parallel and flat. This indicates no substantial difference in job-related well-being across genders based on hourly pay. The graph also reflects minimal

changes in well-being, with a slight decline in depression for females and relative stability for males across ± 1 SD of hourly pay. These patterns align with the small, non-significant interaction coefficient ($B = 0.170$; Table 3.3), suggesting that the hypothesized moderating effect of gender on the relationship between pay and depression is negligible in this sample.

4.2 Limitations and Future Directions

This study has several limitations. The overrepresentation of women in the sample and their uneven distribution across pay intervals may limit the generalizability of the findings. Future research should examine specific subgroups, such as low-wage earners, to explore how gender may influence the relationship between pay and well-being in economically constrained populations. Additionally, the clustering of participants in lower pay intervals may not adequately represent the full economic spectrum, reducing the ability to detect stronger effects. The reliance on subjective self-reports for job satisfaction is another limitation. These measures are prone to individual interpretation biases, which may obscure the true relationships between pay, gender, and well-being. Including more objective measures, such as workplace conditions or specific financial stress indicators, could provide a more comprehensive understanding of well-being determinants. Finally, using pre-existing survey data limits control over the measures and sampling methodology.

Future studies could employ experimental designs or longitudinal approaches to better isolate causal relationships and explore additional moderating factors, such as job type, workplace support, or family responsibilities. They should also focus on a representative sample across income levels and sex distributions. By addressing these limitations and incorporating subgroup analyses and alternative measures, future research can better understand the complex relationships

between pay, gender, and well-being across diverse economic and social contexts.

5 References

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