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APPENDIX 2: Methodology | *June 2020*

CIPD Good Work Index 2020

UK Working Lives Survey

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CIPD Good Work Index 2020

UK Working Lives Survey

Appendix 2: Methodology

June 2020

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This report was written by Mark Williams of Queen Mary of University of London, Ying Zhou of the University of Surrey, and Min Zou of Henley Business School, University of Reading.

1. Introduction to Appendix 2

This appendix is a complementary document to the [CIPD Good Work Index](#) report (based on the UK Working Lives (UKWL) survey). It contains technical details of the use of survey data and further statistical analysis reported but not presented in the report.

Analysis of occupational groups: SOC2010 and NS-SEC

One central theme of this year's report is occupations. The analysis of occupational groups in this report takes a different approach from those in the previous years. In previous years, the National Readership Survey (NRS) social grades were used, which classify an individual's occupation into group A, B, C, D or E based on one's job itself, qualification and supervisory role.¹ The 2020 report, however, uses two new occupational classification systems from the Office for National Statistics: the Standard Occupational Classification (SOC) 2010 based on tasks and skills and the National Statistics Socio-economic Classification (NS-SEC) based on employment relations. More detailed discussions on SOC2010, NS-SEC and the rationale for replacing NRS Social Grade are provided in 'Appendix to Chapter 2 Occupations'.

The 2020 UKWL panel data

A key design innovation of the 2020 UKWL is the introduction of the panel component in survey sampling. Out of the 6,681 respondents, there are 2,107 individuals who participated in both the 2019 and 2020 surveys. They form the panel element of the 2020 UKWL survey.

The panel data provides valuable information on job progression and mobility which have not been possible to address in previous reports with cross-sectional data. In this report, patterns of how different dimensions of good work change after individuals change or remain in their job are explored for the first time using the 2020 UKWL panel data.

Statistical significance, reporting data and weighting

The analysis throughout the report adopts the minimum sample size requirement of 30. In the context of occupational groups, this means the analysis is often carried out at the SOC2010 three-digit level to ensure the minimum sample size requirement is met. Occupations with fewer than 30 observations at the three-digit level are merged with the closest matching neighbouring occupations to increase the sample size for analysis (for example, combining SOC2010-621 and SOC2010-622 to form a new group).

Various statistical methods, such as descriptive statistics and regressions, are used to detect the patterns across occupations. Detailed outputs of these analyses are provided in the appendices to relevant chapters.

The 2020 UKWL survey comes with cross-sectional weights. As such, all cross-sectional analyses in the report are weighted. These weights are supplied by YouGov and are based on ONS figures relating to gender, full- or part-time work status, organisation size within each sector, and industry. The analyses of job mobility based on panel data are unweighted.

2. Appendix to Chapter 1 – Introduction

Representativeness of sample

The 2020 UKWL sample is generally in line with the profile of the UK working population. However, due to the nature of the YouGov UK panel and sampling approaches, our sample inevitably has some bias. Compared with the ONS data, the 2020 UKWL sample under-represents those younger than 25 years old and those in routine occupations. It also over-represents those over 55 years old, graduates (with first or post-graduate degrees) and those in managerial or professional occupations. Cross-sectional weights are employed throughout the analysis in order to minimise the bias.

The CIPD Good Work Index

The CIPD Good Work Index (previously CIPD Job Quality Index) is multi-faceted in nature and covers seven important dimensions of a job: (1) pay and benefits; (2) contracts; (3) job design and the nature of work; (4) work–life balance; (5) relationships at work; (6) employee voice; and (7) health and wellbeing.² A brief description of statistics of the 2020 CIPD Good Work Index is provided in Table 1.

Table 1: CIPD Good Work Index: 2020

	N	Min	Max	Mean	SD
Pay and benefits index (subjective)	6,652	0.00	1.00	0.455	0.228
Contracts index	6,652	0.00	1.00	0.850	0.154
Job design index	6,646	0.00	1.00	0.587	0.192
Work–life balance index	6,652	0.00	1.00	0.529	0.193
Relationships at work index	6,568	0.00	1.00	0.713	0.169
Employee voice index	6,652	0.00	1.00	0.286	0.211
Health and wellbeing index	6,374	0.00	1.00	0.564	0.182

The seven dimensions of the CIPD Good Work Index were calculated from 18 sub-indices, which in turn are derived from a total of 95 survey items. The relationships of the seven Good Work dimensions and their corresponding sub-indices and survey items are summarised in Table 2. Further technical details of the construction of the CIPD Good Work Index can be found in Appendix 2 of the 2019 UKWL survey report.³

Table 2: CIPD Good Work Index

Index	Sub-index	Survey item
Pay and benefits (subjective)	Subjective pay	Considering my responsibilities and achievements in my job, I feel I get paid appropriately
	Pension	Employer pension contribution as a proportion of salary
	Benefits	Career development benefits in last 12 months
		Financial assistance benefits in last 12 months
		Food benefits in last 12 months
		Healthcare and insurance benefits in last 12 months
		Wellbeing benefits in last 12 months
		Enhanced leave benefits in last 12 months
		Social benefits in last 12 months
		Technology benefits in last 12 months
Transport benefits in last 12 months		
Contracts	Security	How likely to lose job
		How often work at short notice

		Permanent in main job	
	Underwork	Hours usually worked per week	
		Hours would like to work per week	
Job design	Demand and resources	Workload	Workload in a normal week
		Autonomy	Amount of autonomy in job tasks
			Amount of autonomy in work pace
			Amount of autonomy in how work done
	Amount of autonomy in start or finish time		
	Resources	I usually have enough time to get my work done within my allocated hours	
		I have the right equipment to do my job effectively	
		I have a suitable space to do my job effectively	
	Skills	How well qualified for current job	
		Person-job skills match	
	Development	Opportunities to develop skills	
		Prospects for career advancement	
	Meaning	I have the feeling of doing useful work for my organisation	
		I have the feeling of doing useful work for my client(s)	
		I have the feeling of doing useful work for society	
I am highly motivated by my organisation's core purpose			
I am highly motivated by the core purpose of my client(s)			
Work-life balance	Balance	I find it difficult to fulfil my commitments outside of work because of the amount of time I spend on my job	
		I find it difficult to do my job properly because of my commitments outside of work	
		I find it difficult to relax in my personal time because of my job	
	HR practice	Taking time out of the day for personal or family matters	
		Flexi-time in last 12 months	
		Job-sharing in last 12 months	
		The chance to reduce your working hours in last 12 months	
		Compressed hours in last 12 months	
		Working from home in last 12 months	
	Working only during school term times in last 12 months		
	Hours	Hours usually worked per week including overtime	
		Hours would like to work per week	
		Daily commute time	
Relationships at work*	Relationships	Line manager or supervisor	
		Other managers	
		Colleagues in your team	
		Other colleagues	
		Staff who you manage	
		Customers, clients or service users	
		Suppliers	
	Psychological safety**	If I make a mistake, my manager or supervisor will hold it against me	
		People in my team sometimes reject others for being different	
		No one in my team would deliberately act in a way that undermines my efforts	
	Line management	My boss respects me as a person	
		My boss recognises when I have done a good job	
		My boss is successful in getting people to work together	
		My boss helps me in my job	
		My boss provides useful feedback on my work	
		My boss supports my learning and development	
		My boss can be relied upon to keep their promise	
		My boss is supportive if I have a problem	
My boss treats me fairly			

Employee voice	Direct channels	Employee survey
		Online forum or chat room for employees
		Employee focus groups
		One-to-one meetings with your line manager
		Team meetings
		All-department or all-organisation meetings
	Indirect channels	Trade union
		Non-union staff association or consultation committee
		How good employee representatives are at seeking the views of employees
		How good employee representatives are at representing employee views to senior management
		How good employee representatives are at keeping employees informed of management discussions or decisions
	Management	How good managers are at seeking the views of employees or employee representatives
		How good managers are at responding to suggestions from employees or employee representatives
		How good managers are at allowing employees or employee representatives to influence final decisions
	Health and wellbeing	Physical health
Backache or other bone, joint or muscle problems (work-related, in last year)		
Breathing problems (work-related, in last year)		
Heart problems (work-related, in last year)		
Hearing problems (work-related, in last year)		
Road traffic accidents while commuting to or from work (work-related, in last year)		
Injury due to an accident while at work (work-related, in last year)		
Repetitive strain injury (RSI) (work-related, in last year)		
Skin problems (work-related, in last year)		
At my work I feel full of energy		
At my work I feel exhausted		
Mental health		
		At my work I feel miserable
		At my work I feel under excessive pressure
		Anxiety (work-related, in last year)
	Depression (work-related, in last year)	

* The conflict sub-index was originally included in the calculation of the 'Relationships at work' index in 2019 but the relevant questions are not available in the 2020 survey.

** The item of 'I trust my colleagues to act with integrity' was originally included in the calculation of psychological safety sub-index in 2019 but this question is not available in the 2020 survey.

Performance measures

In 2020, a set of new questions of self-reported job performance are introduced to the UKWL survey which measure task and contextual performance at work. Task performance refers to one's adherence to core job role tasks, whereas contextual performance concerns one's engagement beyond those core job role tasks.⁴ The wording of the new questions is as follows:

To what extent do you agree or disagree with the following statements?

- I achieve the objectives of the job, fulfil all the requirements. [task performance]
- I am competent in all areas of the job, handle tasks with proficiency. [task performance]
- I volunteer to do things not formally required by the job. [contextual performance]
- I help others when their workload increases (assist others until they get over the hurdles). [contextual performance]

- I make innovative suggestions to improve the overall quality of my team or department. [contextual performance]

A five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) is provided as answer options. Factor analysis shows that there are two distinctive factors with the first two task performance items loading onto one factor and the remaining three contextual performance items onto the other. The Cronbach's alpha values of the two factors are 0.732 and 0.676, respectively.

Our performance measures are necessarily self-reported so not hugely reliable in and of themselves – independent measures of employee or organisational performance would be much more reliable, but we cannot obtain these with a survey of workers. Nonetheless, used comparatively, the performance measure we have tells us something about the relationships between different aspects of good work and performance.

3. Appendix to Chapter 2 – Occupations

A key focus of this report is disparities in the seven Good Work indices between occupational groups. In this Appendix, we report supplementary technical detail related to Chapter 2.

What are occupations and why focus on them?

Occupations are collections of functionally similar jobs, involving similar tasks and skills.⁵ More technically, occupations are aggregations of detailed job titles according to a set of rules according to duties and skills by statistical agencies.⁶ Why focus on them in this report? There are at least two reasons. First, occupations are an easy-to-understand and readily relatable unit of analysis, making disparities in the quality of working life more visible and transparent for employers, policy-makers, and the general public than national averages. This is important, given some dimensions of job quality may seem fairly abstract (for example, job design) and so viewing them in relative terms can make them more tractable. The accompanying infographic to this report should prove illuminating in this regard by allowing one to view the relative rank of their occupational group within the wider range of occupations along the different dimensions of job quality. Second, occupational mobility is low compared with job mobility (we tend to stay in the same field of work for many years while we may change jobs many times in our careers). By focusing on occupations, this means we can better understand disparities not just in people's current jobs, but for long spells of their working lives. Occupational disparities therefore reveal more enduring disparities in the quality of work between different sections of the labour market than focusing just on jobs.

We define occupations using the Office for National Statistics' Standard Occupational Classification called SOC2010, which distinguishes 369 occupation unit groups.⁷ This is done by allocating respondents based on their survey responses to questions asking for their job title, a written description of key tasks and duties, and their industrial sector using specialist software called CASCOT developed for this specific purpose by experts at the Warwick Institute of Employment Research.⁸ We use SOC2010 rather than the newer SOC2020 (the ONS's latest classification) since the latter was not publicly available at the time work on this report commenced.

In the report, we use this information to present our occupational analysis in two ways. First, since SOC2010 distinguishes several hundred occupations, making presentation cumbersome, as well as concerns over small cell sizes, we allocate respondents to one of seven 'occupational classes' for ease of presentation (explained in more detail in the next few paragraphs). Second, given the large sample sizes in the UKWL survey – and broad aggregations can sometimes hide more than they reveal – we occasionally drill down into a more granular level of detail to pinpoint the extreme cases, reporting the top and bottom ten detailed occupations along dimensions of job quality of a more

detailed occupational classification (75 categories derived from recoding some small three-digit SOC2010 codes).⁹

National Statistics Socio-Economic Classification (NS-SEC)

We use NS-SEC to present our aggregated occupational analysis as it offers a conceptually clear and substantively meaningful way to allocate respondents to a smaller number of occupational groups.¹⁰ NS-SEC derives from a sociological classification widely used internationally in applied social science research known as the ‘Goldthorpe Schema’. It distinguishes broad socio-economic positions in society based upon the purported employment relationships found in different kinds of work. It broadly makes the distinction between managerial and professional occupations on the one hand, which tend to be salaried and have prospective benefits (for example, assurances of security and career opportunities), and routine and manual occupations on the other, which tend to provide discrete amounts of labour in return for a wage (for example, calculated on the amount of time worked) with more limited prospective benefits. In the middle are intermediate occupations, which in general are clerical, sales, service, and intermediate technical occupations, as well as the self-employed engaged in non-professional trades and small business owners. This middle category has employment relationships that combine elements of the other two types. Within these three broad categories, NS-SEC also makes further distinctions based upon employment relationships to define seven broad groups in Table 3.

Table 3: National Statistics Socio-Economic Classification (NS-SEC) categories¹¹

Reduced category labels	NS-SEC category labels	Description	Largest four-digit occupations
1 Managerial and professional occupations	1 Higher managerial and professional occupations (including large employers)	Managerial occupations of a more strategic level often in large organisations, more traditional professional occupations (including freelancers), and large employers (>25 employees)	Programmers and software development professionals (employees); Sales accounts and business development managers (employees); Chartered and certified accountants (employees)
	2 Lower managerial and professional occupations	Employees in managerial occupations at a less strategic level, often in smaller organisations, newer professional occupations (including freelancers and smaller employers (<25 employees))	Information technology and telecommunications professionals not elsewhere classified (n.e.c.) (employees); Finance and investment analysts and advisers (employees); Business sales executives (employees)
2 Intermediate occupations	3 Intermediate occupations	Employees in routine clerical and office support occupations, some higher-level supervisory technical occupations, and some associate professional occupations	Other administrative occupations n.e.c. (employees); Financial administrative occupations n.e.c. (employees); customer service occupations n.e.c. (employees)
	4 Self-employed routine and manual workers	Small employers (<25 employees) in any kind of occupation and sole traders with no employees	Shopkeepers and proprietors – wholesale and retail (small employers); Graphic

		working in non-professional occupations	designers (small employers); Pipe fitters (small employers)
3 Routine and manual occupations	5 Lower supervisory and lower technical occupations	Employees with supervisory status in routine and manual occupations, but not managers involving more strategic-level duties, as well as some technical occupations	Sales and retail assistants (supervisors); Metal working production and maintenance fitters (supervisors); Electricians and electrical fitters (employees)
	6 Semi-routine occupations	Employees in routine and manual occupations with more opportunities for prospective benefits and advancement than those in routine occupations	Sales and retail assistants (employees); Care workers and home carers (employees); Postal workers, mail sorters, messengers and couriers (employees)
	7 Routine occupations	Employees in routine and manual occupations with limited opportunities for prospective benefits and advancement	Elementary storage occupations (employees); Taxi and cab drivers and chauffeurs (employees); Van drivers (employees)

Survey respondents are allocated to one of these seven broad ‘occupational classes’ based upon their detailed occupation code, employment status (whether employer, employee, or self-employed), whether they have managerial or supervision duties, and organisation size – following the algorithm set out by the Office for National Statistics.¹² Given its empirical validation and its use in official statistics, NS-SEC replaces the previously used ‘NRS Social Grade’ in the previous two UKWL reports. To simplify referring to class categories, we sometimes use the labels of ‘reduced categories’ – which reduces the seven classes to three.

4. Appendix to Chapter 3 – Job progression and mobility

Job quality and probability of changing jobs

A total of seven multivariate OLS regressions are performed to estimate how the probability of job changing in 2020 was affected by observed job quality in 2019 using the UKWL panel data. In other words, we used one’s Good Work indices scores in 2019 to predict the probability of one changing job in 2020. The coefficients of those job quality dimensions from the regressions are reported in Table 4.

Table 4: Coefficients from seven OLS regressions: Good Work and job changing

Good Work Index	Unstandardised coefficients	t-values	p-values	Model R ²
Pay and benefits	-0.060	-1.939	0.053	0.109
Contracts	-0.100	-2.023	0.043	0.109
Job design	-0.169	-4.573	0.000	0.117
Work-life balance	-0.132	-3.517	0.000	0.113
Relationships at work	-0.182	-4.284	0.000	0.117

Employee voice	-0.131	-3.529	0.000	0.113
Health and wellbeing	-0.135	-3.468	0.001	0.114

Each regression includes the following control variables: gender, age, education, organisational tenure, organisational size, management level, sector and industry.

5. Appendix to Chapter 4 – Pay and benefits

Additional detail relating to objective pay

Exploring objective pay in the UKWL is challenging for a number of issues typical in sample surveys of this type, particularly when it comes to calculating hourly pay rates (useful for standardising pay on differences in hours worked). First, pay data are missing for more than a third of respondents. Second, there are also some quality issues for those with non-missing pay data. There are some implausibly high-earning part-time workers. These issues resulted in error-prone attempts at creating a reliable hourly pay variable. Third, data quality and missing data issues were very high among small employers and own-account workers. Given these issues, we therefore restrict our analysis of objective pay to annual pay of full-time workers who were not self-employed (including self-employed individuals in professional occupations) and choose a relative measure of low pay. This approach of course is also not without issue in that many workers are part-timers and/or self-employed are among the low-paid. The pay and benefits index draws only on the subjective measure of pay appropriateness.

6. Appendix to Chapter 5 – Contracts

Contract type and performance

Two scales of task performance and contextual performance are created by taking the average of the corresponding items (two items for task performance and three items for contextual performance – see more details in the ‘Performance measures’ section in ‘Appendix to Chapter 1 – Introduction’). Multivariate OLS regressions are performed in which the two scales are regressed on contract types controlling for a wide range of variables. The regression results are reported in Tables 5 and 6.

Table 5: OLS regression: task performance

	Unstandardised coefficients	t-values	p-values
(Constant)	0.749	44.080	0.000
contract_non_permanent	0.004	0.339	0.734
contract_selfemp	0.008	0.962	0.336
contract_other	-0.036	-1.416	0.157
tenure_6_12mon	0.021	1.645	0.100
tenure_1_2yr	0.008	0.740	0.460

tenure_2_5yr	0.040	3.900	0.000
tenure_5_10yr	0.038	3.637	0.000
tenure_10_15yr	0.044	3.974	0.000
tenure_15_20yr	0.026	2.197	0.028
tenure_20yr_	0.028	2.507	0.012
age_25_34	0.006	0.531	0.595
age_35_44	0.015	1.247	0.212
age_45_54	0.014	1.228	0.219
age_55_	0.040	3.441	0.001
male	-0.016	-3.656	0.000
degree	-0.002	-0.507	0.612
private	0.002	0.280	0.780
services	0.006	0.918	0.358
size_10_49	-0.017	-2.083	0.037
size_50_249	-0.018	-2.049	0.041
size_250_	-0.027	-3.809	0.000
intermediate_class	-0.005	-0.863	0.388
labour_class	0.023	3.905	0.000
Model R ²	0.030		

Table 6: OLS regression: contextual performance

	Unstandardised coefficients	t-values	p-values
(Constant)	0.719	36.692	0.000
contract_non_permanent	-0.021	-1.567	0.117
contract_selfemp	-0.060	-6.131	0.000
contract_other	-0.118	-3.960	0.000
tenure_6_12mon	-0.009	-0.590	0.556
tenure_1_2yr	-0.004	-0.315	0.753
tenure_2_5yr	0.014	1.156	0.248
tenure_5_10yr	0.001	0.096	0.924
tenure_10_15yr	0.004	0.331	0.741
tenure_15_20yr	-0.005	-0.392	0.695
tenure_20yr_	-0.012	-0.929	0.353
age_25_34	-0.005	-0.338	0.735

age_35_44	0.012	0.875	0.381
age_45_54	0.001	0.106	0.916
age_55_	0.018	1.311	0.190
male	-0.020	-4.038	0.000
degree	0.031	5.748	0.000
private	-0.020	-3.075	0.002
services	-0.007	-0.986	0.324
size_10_49	-0.020	-2.048	0.041
size_50_249	-0.021	-2.076	0.038
size_250_	-0.032	-3.930	0.000
intermediate_class	-0.048	-7.232	0.000
labour_class	-0.051	-7.632	0.000
Model R ²	0.047		

7. Appendix to Chapter 7 – Job design and the nature of work

Job design and performance

Seven multivariate OLS regressions of task performance on job design variables with a wide range of control variables are carried out. The regression results are reported in Table 7.

Table 7: Coefficients from seven OLS regressions: task performance and job design

Job design	Unstandardised coefficients	t-values	p-values	Model R ²
Workload	0.045	8.839	0.000	0.035
Autonomy	0.132	15.523	0.000	0.066
Resources	0.374	37.074	0.000	0.212
Purpose	0.182	18.624	0.000	0.080
Job complexity	0.085	7.319	0.000	0.032
Skills	-0.019	-3.624	0.000	0.025
Development	0.045	5.375	0.000	0.028

Each regression includes the following control variables: gender, age, education, NS-SEC class, organisational size, sector and industry.

A similar set of seven multivariate regressions of contextual performance on job design are performed. The results are summarised in Table 8.

Table 8: Coefficients from seven OLS regressions: contextual performance and job design

Job design	Unstandardised coefficients	t-values	p-values	Model R ²
Workload	0.025	4.218	0.000	0.040
Autonomy	0.175	18.671	0.000	0.107
Resources	0.198	15.511	0.000	0.076
Purpose	0.321	29.886	0.000	0.170
Job complexity	0.361	28.172	0.000	0.157

Skills	-0.015	-2.463	0.014	0.037
Development	0.182	19.533	0.000	0.099

Each regression includes the following control variables: gender, age, education, NS-SEC class, organisational size, sector and industry.

8. Appendix to Chapter 8 – Relationships at work

Measures of relationships at work

Social relationships are measured by three main indicators in the UKWL survey. First, individuals were asked to rate the quality of their relationships with their managers, colleagues, subordinates, customers and suppliers on a five-point scale ranging from 'very good' to 'very poor'. An index for 'relationships at work' was created by averaging individuals' responses across these items. Second, we constructed an index for the perceived quality of line management because employees' relationship with their line managers are particularly important for their motivation and wellbeing. In the UKWL survey, individuals were asked the extent to which they agree with the following statements: My immediate supervisor, line manager or boss (1) Respects me as a person; (2) Recognises when I have done a good job; (3) Is successful in getting people to work together; (4) Helps me perform well in my job; (5) Provides useful feedback on my work; (6) Supports my learning and development; (7) Can be relied upon to keep their promise; (8) Is supportive if I have a problem; (9) Treats me fairly. Finally, individuals were asked about their psychological safety at work, which refers to the absence of a blame culture that prevents people from making mistakes or expressing their opinions without fear of negative consequences. Specifically, individuals were asked: To what extent do you agree or disagree with each of the following statements for the team you work in? (1) If I make a mistake, my manager or supervisor will hold it against me; (2) People in my team sometimes reject others for being different; (3) No one in my team would deliberately act in a way that undermines my efforts. In addition to the three separate indices for 'relationships at work', 'line management' and 'psychological safety', we have also created an overall summary index for social relationships that takes all three dimensions into account.

Relationships at work and performance

Four multivariate OLS regressions of task performance on each of the four measures of workplace relationships with a wide range of control variables are carried out. The regression results are reported in Table 9.

Table 9: Coefficients from four OLS regressions: task performance and workplace relationships

	Unstandardised coefficients	t-values	p-values	Model R ²
Relationships at work	0.379	27.646	0.000	0.138
Line management sub-index	0.132	12.839	0.000	0.052
Psychological safety	0.153	14.445	0.000	0.060
Summary index	0.288	22.699	0.000	0.103

Each regression includes the following control variables: gender, age, education, NS-SEC class, organisational size, sector and industry.

Another four multivariate OLS regressions of contextual performance on workplace relationships are conducted. The regression results are available in Table 10.

Table 10: Coefficients from four OLS regressions: contextual performance and workplace relationships

	Unstandardised coefficients	t-values	p-values	Model R ²
Relationships at work	0.420	26.629	0.000	0.147
Line management sub-index	0.210	18.725	0.000	0.107
Psychological safety	0.127	10.768	0.000	0.067
Summary index	0.310	21.124	0.000	0.109

Each regression includes the following control variables: gender, age, education, NS-SEC class, organisational size, sector and industry.

9. Appendix to Chapter 9 – Employee voice

Employee voice and performance

A set of three multivariate OLS regressions of task performance on measures of employee voice with a wide range of control variables are conducted. The regression results are reported in Table 11.

Table 11: Coefficients from three OLS regressions: task performance and employee voice

	Unstandardised coefficients	t-values	p-values	Model R ²
Direct channels	0.074	7.878	0.000	0.039
Indirect channels	0.014	1.321	0.186	0.029
Management openness	0.044	5.957	0.000	0.035

Each regression includes the following control variables: gender, age, education, NS-SEC class, organisational tenure, organisational size, sector and industry.

Another set of three multivariate OLS regressions of contextual performance on measures of employee voice are performed. The regression results are summarised in Table 12.

Table 12: Coefficients from three OLS regressions: contextual performance and employee voice

	Unstandardised coefficients	t-values	p-values	Model R ²
Direct channels	0.169	15.953	0.000	0.081
Indirect channels	0.033	2.642	0.008	0.039
Management openness	0.163	19.616	0.000	0.101

Each regression includes the following control variables: gender, age, education, NS-SEC class, organisational tenure, organisational size, sector and industry.

10. Appendix to Chapter 10 – Health and wellbeing

Changes in impact of work on mental and physical health between 2018 and 2020

In order to assess if there is a significant change in impact of work on mental health between 2018 and 2020, a multivariate regression is carried out in which year dummies are used as independent variables. The result suggests that indeed the change is statistically significant (see Table 13).

Table 13: OLS regression: impact of work on mental health 2018–2020

	Unstandardised coefficients	t-values	p-values
(Constant)	3.980	9.401	0.000
Year_2018	-0.611	-4.529	0.000
Year_2019	-0.500	-3.504	0.000
age_25_34	0.308	0.881	0.378
age_35_44	0.293	0.869	0.385
age_45_54	0.031	0.092	0.926
age_55_	-0.520	-1.588	0.112
male	0.124	1.053	0.292
degree	0.090	0.734	0.463
private	-0.265	-1.771	0.077
services	-0.198	-1.190	0.234
size_10_49	-0.199	-1.014	0.311
size_50_249	0.314	1.539	0.124
size_250_	0.083	0.554	0.580
intermediate_class	-0.009	-0.062	0.950
labour_class	0.125	0.797	0.425
Model R ²	0.005		

A similar multivariate regression is conducted to assess whether or not the change in impact of work on physical health between 2018 and 2020 is significant. The result confirms that the change is also significant (see Table 14).

Table 14: OLS regression: impact of work on physical health 2018–2020

	Unstandardised coefficients	t-values	p-values
(Constant)	3.665	10.287	0.000
Year_2018	-0.426	-3.752	0.000
Year_2019	-0.388	-3.227	0.001
age_25_34	0.166	0.563	0.573
age_35_44	0.263	0.927	0.354
age_45_54	0.051	0.185	0.853
age_55_	-0.097	-0.352	0.725
male	-0.027	-0.270	0.787
degree	0.089	0.865	0.387
private	-0.205	-1.632	0.103
services	-0.056	-0.397	0.691
size_10_49	0.001	0.004	0.997
size_50_249	0.164	0.955	0.340
size_250_	0.020	0.161	0.872
intermediate_class	-0.045	-0.371	0.711
labour_class	0.171	1.296	0.195
Model R ²	0.002		

Health, wellbeing and job performance

Multivariate OLS regressions are performed to explore the relationship between task performance and two measures of health and wellbeing: hours of sleep and overall health and wellbeing index. The results are reported in Tables 15 and 16.

Table 15: OLS regressions: task performance and sleep hours

	Unstandardised coefficients	t-values	p-values
(Constant)	0.700	33.631	0.000
sleep_hr	0.007	4.161	0.000
tenure_6_12mon	0.023	1.791	0.073
tenure_1_2yr	0.009	0.796	0.426
tenure_2_5yr	0.041	4.002	0.000
tenure_5_10yr	0.039	3.716	0.000
tenure_10_15yr	0.046	4.162	0.000

tenure_15_20yr	0.028	2.341	0.019
tenure_20yr_	0.030	2.660	0.008
age_25_34	0.007	0.590	0.555
age_35_44	0.017	1.415	0.157
age_45_54	0.017	1.512	0.131
age_55_	0.044	3.762	0.000
male	-0.016	-3.763	0.000
degree	-0.003	-0.710	0.478
private	0.002	0.290	0.772
services	0.006	0.922	0.357
size_10_49	-0.019	-2.606	0.009
size_50_249	-0.019	-2.423	0.015
size_250_	-0.028	-4.932	0.000
intermediate_class	-0.004	-0.764	0.445
labour_class	0.022	3.921	0.000
Model R ²	0.032		

Table 16: OLS regressions: task performance and overall health and wellbeing index

	Unstandardised coefficients	t-values	p-values
(Constant)	0.645	35.854	0.000
Health and wellbeing index	0.181	15.292	0.000
tenure_6_12mon	0.031	2.441	0.015
tenure_1_2yr	0.015	1.347	0.178
tenure_2_5yr	0.045	4.326	0.000
tenure_5_10yr	0.044	4.194	0.000
tenure_10_15yr	0.049	4.491	0.000
tenure_15_20yr	0.037	3.138	0.002
tenure_20yr_	0.034	3.027	0.002
age_25_34	0.007	0.544	0.586
age_35_44	0.015	1.295	0.195
age_45_54	0.011	0.920	0.358
age_55_	0.030	2.558	0.011
male	-0.021	-4.806	0.000
degree	-0.005	-1.144	0.253
private	0.004	0.641	0.522
services	0.007	1.076	0.282
size_10_49	-0.017	-2.281	0.023
size_50_249	-0.015	-1.946	0.052

size_250_	-0.020	-3.419	0.001
intermediate_class	-0.004	-0.775	0.439
labour_class	0.021	3.726	0.000
Model R ²	0.069		

Similar regressions are carried out for contextual performance and the two measures of health and wellbeing. The results are reported in Tables 17 and 18.

Table 17: OLS regressions: contextual performance and sleep hours

	Unstandardised coefficients	t-values	p-values
(Constant)	0.679	27.939	0.000
sleep_hr	0.003	1.215	0.224
tenure_6_12mon	-0.006	-0.396	0.692
tenure_1_2yr	-0.003	-0.222	0.824
tenure_2_5yr	0.014	1.190	0.234
tenure_5_10yr	0.002	0.188	0.851
tenure_10_15yr	0.006	0.459	0.646
tenure_15_20yr	-0.004	-0.265	0.791
tenure_20yr_	-0.012	-0.946	0.344
age_25_34	-0.004	-0.270	0.787
age_35_44	0.012	0.887	0.375
age_45_54	0.001	0.053	0.958
age_55_	0.014	1.046	0.295
male	-0.023	-4.621	0.000
degree	0.027	4.979	0.000
private	-0.022	-3.356	0.001
services	-0.009	-1.196	0.232
size_10_49	0.008	0.957	0.339
size_50_249	0.008	0.943	0.346
size_250_	-0.003	-0.405	0.686
intermediate_class	-0.055	-8.550	0.000
labour_class	-0.049	-7.365	0.000
Model R ²	0.039		

Table 18: OLS regressions: contextual performance and overall health and wellbeing index

	Unstandardised coefficients	t-values	p-values
(Constant)	0.620	29.197	0.000
Health and wellbeing index	0.137	9.720	0.000
tenure_6_12mon	-0.007	-0.492	0.622

tenure_1_2yr	-0.003	-0.239	0.811
tenure_2_5yr	0.013	1.054	0.292
tenure_5_10yr	0.002	0.174	0.862
tenure_10_15yr	0.005	0.422	0.673
tenure_15_20yr	-0.003	-0.244	0.807
tenure_20yr_	-0.013	-0.960	0.337
age_25_34	-0.004	-0.252	0.801
age_35_44	0.013	0.941	0.347
age_45_54	-0.003	-0.189	0.850
age_55_	0.005	0.394	0.693
male	-0.027	-5.330	0.000
degree	0.024	4.480	0.000
private	-0.021	-3.212	0.001
services	-0.006	-0.809	0.419
size_10_49	0.011	1.239	0.215
size_50_249	0.013	1.377	0.169
size_250_	0.004	0.565	0.572
intermediate_class	-0.055	-8.307	0.000
labour_class	-0.049	-7.344	0.000
Model R ²	0.055		

Notes

¹ National Readership Survey. (2016) Social grade. Available at: www.nrs.co.uk/nrs-print/lifestyle-and-classification-data/social-grade/.

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⁶ Office for National Statistics. (2010) *SOC2010 volume 1: structure and descriptions of unit groups*. Basingstoke: Palgrave Macmillan.

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⁸ For more information see: <https://warwick.ac.uk/fac/soc/ier/software/cascot/>.

⁹ Specifically, we use a recoded version of SOC2010 three-digit (recoded to increase N).

¹⁰ Office for National Statistics. (2010) *Standard occupational classification 2010 volume 3: the national statistics socio-economic classification (rebased on the SOC2010)*. Basingstoke: Palgrave Macmillan.

¹¹ Adapted from Williams, M., Zhou, Y. and Zou, M. (2020) *Mapping good work: the quality of working life across the occupational structure*. Bristol: Bristol University Press.

¹² Office for National Statistics. (2010) *Standard occupational classification 2010 volume 3: the national statistics socio-economic classification (rebased on the SOC2010)*. Basingstoke: Palgrave Macmillan.

CIPD

Chartered Institute of Personnel and Development
151 The Broadway London SW19 1JQ United Kingdom
T +44 (0)20 8612 6200 **F** +44 (0)20 8612 6201
E cipd@cipd.co.uk **W** cipd.co.uk

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