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Flight Crew Furloughs. Full report



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A data-informed assessment of the impacts of HMG-supported Furloughs on flight crew competencies, including retention of learned routines, faith in officialdom, faith in employers and subjective outlook.

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The author is confident that the analysis presented in this report will, if used to inform policymaking, leave UK aviation better prepared for the next pandemic.

Contents

- 1 Funding
- 2 Methodology
- 3 The pandemic
- 4 Data
 - 4.1 Introduction
 - 4.2 On-line questionnaire
 - 4.3 Interviews
 - 4.3.1 Interview 1
 - 4.3.2 Interview 2

5 Appendices

- 5.1 Appendix 1: The author
- 5.2 Appendix 2: The on-line questionnaire
- 5.3 Appendix 3: The interview questions
- 5.4 Appendix 4: Post-Furlough subjective performance assessments
 - 5.4.1 Respondents who scored their first post-Furlough #1 duty (flight-deck or simulator) in the range 1-4
 - 5.4.1.1 First duty subjective performance assessment = 4
 - 5.4.1.2 First duty subjective performance assessment = 3
 - 5.4.1.3 First duty subjective performance assessment = 1
 - 5.4.2 Respondents who scored their first post-Furlough #2 duty (flight-deck or simulator) in the range 1-4
 - 5.4.2.1 First duty subjective performance assessment = 4
 - 5.4.2.2 First duty subjective performance assessment = 2

6 Bibliography

1 Funding

The research was funded from the University of Leicester's College Research Development Fund.

2 Methodology

The report draws on primary and secondary data, the former coming from an on-line questionnaire and two interviews, and the latter from:

- academic books
- academic papers
- official reports
- quality media reports.

The on-line questionnaire (Appendix 2), made available to British Air Line Pilots Association members via the BALPA web-site between 16 March 2022 and 6 April 2022, attracted 223 responses. Using the BALPA web-site, which is password-protected, helped safeguard the integrity of the data.

The questions generated both quantitative and qualitative data. Referencing the traditions of ethnography (Geertz 1973; Ellen 1984) and mass-observation (Madge and Harrisson 1937; Summerfield 1985; Icon Films 2018; Mass Observation 2022), the qualitative data, consisting mainly of pilots' testimony, generated a detailed, first-hand account of the UK aviation industry during the COVID-19 pandemic. To use an ethnographic term, pilots' testimony created a *thick description* of the industry in 2020 and 2021. Pilots' testimony is reproduced verbatim. It is unadulterated.

During the Second World War, the Ministry of Information (MoI) looked to mass observation, an ethnographic technique pioneered by anthropologist Tom Harrisson, poet Charles Madge and documentary film-maker Humphrey Jennings, to document the lifestyles, opinions and aspirations of Britons during wartime (a moment of existential crisis). Techniques included self-reporting and the recording by researchers of conversations and activities in workplaces, public houses and sports venues (for example, football stadia). The report's methodology draws on this academic tradition, documenting aspects of respondents' lives during the COVID-19 pandemic.

3 The pandemic

The COVID-19 virus emerged in 2019. The World Health Organisation (WHO) declared a global pandemic on 11 March 2020. Cao, Hiyoshi and Montgomery (2020) estimated the mean and median case fatality rate (CFR) for COVID-19 to be 3.31% and 2.19% worldwide.

More lethal than the influenza virus, COVID-19 is significantly less lethal than, for example, the Ebola virus: 'The fatality rate for EVD [Ebola Virus Disease] varies between 25% and 90%. That for COVID-19 varies between 3% and 4%. That for seasonal influenza is below 0.1%' (Bennett 2021: 221).

While the COVID-19 virus posed a significant health risk to the elderly and infirm, it did not pose a significant health risk to the young and fit: 'Some people infected with [COVID-19] will experience mild to moderate respiratory illness and most will recover without requiring special treatment Older people and those with underlying medical conditions such as heart disease, diabetes, chronic respiratory disease and cancer are more likely to develop serious illness' (European Centre for Disease Prevention and Control 2022). The Omicron variant of the virus proved milder and less problematic than the original Delta variant (Nealon and Cowling 2022; Wise 2022). Over time, the pandemic became politicised, with some governments being criticised for introducing measures

considered too authoritarian, and others being criticised for being too laissez-faire in their countermeasures (Bennett 2021).

Uncertainty as to how a pandemic will unfold makes it difficult for governments and health-protection agencies to strike the right policy note. While some declared health emergencies run out of control, others splutter and die: 'Geneva-based WHO ... declared a global pandemic of swine flu in 2009, that, in fact, caused fewer deaths than seasonal flu' (Masters 2014: 30). At the time of writing this report concerns were being raised about a viral zoonosis dubbed Monkeypox.

4 Data

4.1 Introduction

The data in this report comes from an on-line questionnaire (that attracted 223 responses) and from two interviews.

Section 4.2 (below) presents the data generated by the on-line questionnaire, supported, where appropriate, by analysis and comment from the report's author. Sometimes a learned source (such as an academic paper or departmental report) is cited. The Bibliography (Section 6) lists the learned sources.

4.2 On-line questionnaire

Note that the numbering system below emulates the numbering system used for the on-line questionnaire.

1.1 Age

The youngest respondent was 20, the oldest 63. The average age for respondents was 44.

1.2 Number of years as a First Officer

The longest-serving First Officer had spent 27 years in the right-hand seat (and six in the left-hand seat). S/he was 56 years old.

1.3 Number of years as a Captain

The longest-serving Captain had spent 29 years in the left-hand seat (and three in the right-hand seat). S/he was 61 years old.

1.4 Management role?

Four percent of respondents filled a management position.

1.5 Training role?

Seventeen percent of respondents had a training role.

Of those with a training role, 11% were type-rated instructors (TRIs), 21% were type-rated examiners (TREs) and 68% held other training roles. These roles included (in the respondents' own words):

Line Training Captain (LTC)

Crew Resource Management Instructor (CRMI)

Groundschool Technical Knowledge Instructor (TKI)

Instructor, Safety and Emergency Procedures (SEP)

Search and Rescue (SAR) Technical Crew Instructor (Rotary wing)

Project pilot

1.6 Military flying experience?

Twenty percent of respondents had military flying experience. Downsizing of the UK's armed forces means that fewer pilots have military flying experience.

1.6.1 If Yes, number of years' military flying experience?

Of those with military flying experience, the pilot with the most service had served in the military for 23 years and the pilot with the least service had served for 2 years. The average length of service was 13 years. The pilot with 23 years military service was, at the time of the survey, 62 years of age. Regarding this pilot's commercial flying career, he had spent 4 years as a First Officer and 18 years as a Captain.

1.7 For which operator do you fly?

Respondents were asked to select an operator from a list (Table 1).

Operator	Number of respondents	% of respondents
Air Tanker	1	0.4
Ascent Helicopter Services	0	0
British Airways	80	35.9
BA CityFlyer	13	5.8
Bristow	5	2.2
British International	0	0
CHC	0	0
DHL	4	1.8
Draken	0	0
easyJet	40	17.9
Jet2	11	4.9
KLC	0	0
Loganair	3	1.3
Ryanair	15	6.7
Specialist Aviation Services	0	0
SAS Ireland/CAE Parc	2	0.9
TUI Airways	30	13.5
Virgin Atlantic	14	6.3
West Atlantic	1	0.4
Other	4	1.8
Total	223	

Table 1 Operators represented in the survey

'Other' operators included Bluebird Nordic and Cargolux.

1.8 Basing

Ninety-nine percent of respondents were based in the United Kingdom.

1.9 Experience of lockdown

1.9.1 Do you live alone?

Thirteen percent of respondents lived alone.

1.9.2 If you were locked-down at any point during the pandemic, how did you find being locked-down?

Several questions employed ten-point Likert scales. In the case of question 1.9.2 ('If you were locked-down at any point during the pandemic, how did you find being locked-down?') values ranged from Intolerable (1) to Tolerable (10). The data is presented in Figure 1.

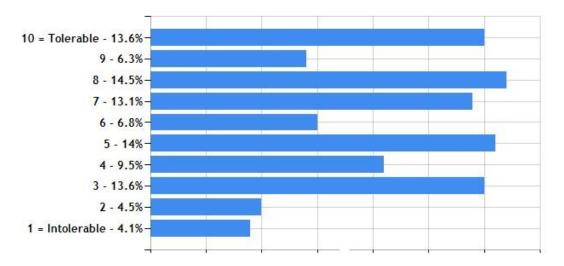


Figure 1 Tolerability of lock-down

The data pertaining to question 1.9.2 showed a Median value of 6 and a Mode value of 8. Therefore, lockdowns were considered to be marginally more tolerable than intolerable.

For information: The Median, also known as the 50th Percentile, is the mid-point value of a frequency distribution of observed values. When abstracted from a Likert scale, the Median represents *the middling response*.

The Mode is that value or response that occurs most frequently (Figure 2).

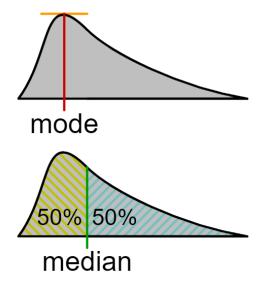


Figure 2 Mode and Median values – abstract representation (Wikimedia Commons 2022)

1.9.3 If you were locked-down at any time please describe your experiences of lock-down, including the worst and best aspects, the duration of each lock-down and any coping-mechanisms you found beneficial

Pilots' narratives were subjected to a quantitative content analysis (QCA). A quantitative content analysis identifies significant words, terms or devices in a script. A script can be anything from a witness statement to a billboard advertisement or television commercial.

A QCA performed on a safety database such as the UK's Confidential Human Factors Incident Reporting Programme or the USA's Aviation Safety Reporting System might identify 'fatigue', 'timetable pressure' and 'cost-cutting' as significant words and terms.

A QCA performed on billboard advertisements might identify pink to be the most frequently used colour in adverts aimed at girls (for example, adverts for dolls and play-houses) and blue the most frequently used colour in adverts aimed at boys (for example, adverts for war-toys and construction sets).

Regarding the responses to question 1.9.3, the most significant negative words are listed in Table 2. The most significant positive words are listed in Table 3. A respondent statement illustrates the manner and context of usage. Respondent statements are reproduced verbatim.

		Most significant negative words	
Word with negative connotation	Frequency	Used in context (statement reproduced verbatim)	Live alone?
worry	24	[C]onstant worry about whether I would keep my job was upsetting, and missing being able to go into work, have something to do and see colleagues.	No
anxiety	12	The stop start nature of the various lockdowns took a toll. My mental health, in particular anxiety , became unmanageable at times. This left my workbased confidence in tatters.	No
worries	9	Zero work, with associated financial worries – we have accrued debt during COVID from having been in a debt-free position (mortgage excepted).	No
alcohol	5	My main coping mechanisms were chatting with friends (excessively on text usually) and alcohol .	No
boredom	5	[G]eneral boredom [led] to overthinking.	No
fear	5	Fear my company [a full-service airline] would not survive.	No
isolated	5	Found the lockdown period a mixed bag – from a personal/family point of view was able to spend significantly more time with new-born daughter, 2.5 year old son and wife compared with what I would have been able to normally, but still felt isolated and professionally adrift.	No
lonely	5	[W]inter 2021 was intolerable. I was lonely and down. It's not an experience I would want to repeat.	Yes
worrying	4	[T]he stresses of worrying about money, potential redundancy and the health aspects of the pandemic were extremely challenging.	No
anxious	3	Was mostly anxious during whole period, unable to read/do relaxing tasks.	No
depressing	3	I took to not watching news or social media because it was utterly depressing .	No

loneliness	3	Worst bits [of lock-down]: loneliness, despair,	Yes
		sleeplessness.	
frustrated	2	[T]owards the end [of the third lock-down] I was	No
		becoming frustrated due to the impact not only on	
		myself financially but also the Airline Industry.	
frustrating	2	[T]ried to keep busy doing DIY projects, but [it] was	No
		frustrating that shops were closed, so hard to get	
		materials.	
isolating	2	Lock-down was incredibly isolating and the worry of	Yes
_		a third redundancy in 4 years played heavily on my	
		mind.	
claustrophobia	1	At first I felt trapped and set of claustrophobia	No
		attacks. I kept busy around the home with	
		decorating and garden jobs. At the latter stages I	
		was involved with volunteering with the vaccination	
		rollout. Walking the dog and being outside was a	
		good coping mechanism.	
claustrophobic	1	Found lockdown depressing, claustrophobic,	No
·		worried for job.	
miserable	1	Second lockdown 3 months, winter miserable and	No
		home schooling was a lot to deal with. Still worries	
		about job security.	
tedium	1	Worse aspects [of lock-down]: Tedium , repetition,	No
		truly shocking content on NETFLIX/Amazon Prime	
		etc., lack of fresh air and exercise, isolation.	

Table 2 Most significant negative words

Most significant positive words			
Word with positive connotation	Frequency	Used in context (statement reproduced verbatim)	Live alone?
exercise	43	A coping mechanism I discovered was exercise and going for a 5km run at least once a week.	No
walks	16	Enjoyed daily walks with the family and completed online courses learning iOS programming to try and get brain working again.	No
walking	15	Going walking and cycling as a family or as individuals was crucial to our mental well-being. I really struggle with being locked indoors.	No
enjoyed	14	I actually really enjoyed not flying. I was able to be at home, sleep normally, eat healthily and exercise more than usual. There was very little that I missed about work, to be honest.	No
enjoy	12	Best aspect was time off work. I really enjoyed the time and managed to use it to enjoy things I hadn't previously done.	No
hobbies	12	Invested more time in hobbies as a coping mechanism and kept brain active with lots of studying.	Yes

DIY	11	To cope I just got on with my own life with lots of jobs like DIY etc. to keep myself busy so I didn't realise the intolerable position the caring government had left me in.	Yes
rest	9	I was ill at the end of August before the year of COVID-19 [2020]. With lockdown and all the rest and relaxation I wasn't I'll again for over 18 months. I genuinely felt as though I'd gained 5-10 years of the end of my life back I felt so good. With my circumstances I felt physically + mentally 110%.	No
reading	7	I kept fit exercising regularly. I felt like I had a healthy lifestyle: eating well, exercising, reading and studying.	Yes
exercising	6	Quite enjoyed [Lockdown 1: Mar-July 2020]. Felt much healthier. Sleeping regularly, eating well, exercising daily.	No
bike	4	Secluded with no personal contact for several weeks at a time. It was pretty hard going. Mentally challenging at times. Getting out for an hour on the mountain bike every day helped greatly.	Yes
enjoyable	4	The first lockdown was quite enjoyable . I was back at my family home with my brother. The weather was lovely and luckily we were in the countryside. We spent lots of time exercising outside, which helped with having a goal to achieve in the day.	No
pleasant	4	Generally had a pleasant time. Live in the middle of woodland. No kids and wife works from home. Could go out each day into the woods and had food delivered online. Plenty to keep ourselves occupied. No stress.	No
relax	4	It was great to relax and switch off from the World whilst still getting paid. It gave me lots of time to read and do all the simpler things.	No
run	4	Lockdown in Kent was helped by being able to walk/ run as we lived in the countryside and I was able to explore the countryside with longer walks as time went on.	No
studying	4	Coping mechanism: sports, routine, cooking, reading, TV, studying for work [and] learning Spanish.	Yes
cycle	2	Raising a baby was challenging, given there was very little support outside the family sphere. One positive was having free time to cycle again, which I found enjoyable.	No
happy	2	I missed my friends but I was very happy to be able to spend a lot of time with my wife and daughter. Inevitably, there were times when we all wanted our own space, but we have lots of hobbies and a large enough house to be able to do our own thing for a while.	No
peaceful	2	Best aspects [of lockdown]: very quiet, peaceful , lots of family time, the joys of zoom, eldest son returning to the nest.	No

relaxing	2	Best aspect was low workload, so it was very relaxing and being able to avoid crowds and congestion was less stressful than normal day-to-day activity. Having the children home from university was also very nice as it brought us together.	No
bicycle	1	First lockdown was the initial April – June period. A lot of BBQ helped to focus and redirect my mind. Also borrowed a friend's bicycle and got into cycling. Enjoyed the time off immensely.	?
bliss	1	Initially for April and May 2020 it was bliss . It was a pleasure to have a lot of time away from work after an intense training period, plus the weather in the South of England was great.	No
jogging	1	Locked down in London as per UK law. Benefits: exercise: Jogging increased from usual 10-15 km per week to 30-40km per week.	No
peace	1	Best [aspects of lock-down]: Peace and quiet around the home environment. Time to think and reflect. Opportunity to do house and garden jobs. Go out walking and cycling. Catch up on sleep. Restore normal sleep/wake patterns. Eat better, and at normal times. No wolfing it down at the wrong time and on short sectors while actively engaged in the job.	Yes

Table 3 Most significant positive words

2 Furlough and/or temporary pay reduction history

Respondents reported up to six periods of COVID-19-related Furlough and/or temporary pay reduction in 2020 and 2021 (Table 4).

Periods of Furlough and/or temporary pay reduction	Number of respondents	Percentage of respondents	Notes
0	61	27	A Captain at a freight airline observed: 'Within my sector (freight) we just kept working so UK aviation industry and CAA did not really impact me'
1	107	48	
2	34	15	
3	9	4	
4	4	2	
5	2	1	
6	6	3	A First Officer at a full-service airline observed: '[My airline] initially did not use the government Furlough scheme for flight crew, but the lack of work (and hence allowances), pay cuts, compulsory unpaid leave and union pay

		deduction deals amounted to a highly variable monthly income, often as little as 50% of normal. They later devised a "flexi" Furlough scheme, where they would retrospectively Furlough us for blocks of time if we had not worked due to cancelled flights, etc. I felt this increased our uncertainty and was an unfair way to "game" the system. [My airline] also extended the recency requirement from 35 to 45 days, meaning that we could – and did – have breaks of up to six weeks between flights or sim sessions – I never understood the safety case there. Simulator recency sessions were provided when the recency rules looked likely to be broken, and there was some good online material too. But I think far more effort could have been made to share the available work out'
223	100	

Table 4 Periods of COVID-19-related Furlough and/or temporary pay reduction in 2020 and 2021

The data pertaining to the frequency of COVID-19-related Furloughs and/or temporary pay reductions in 2020 and 2021 showed a Median value of 1 and a Mode value of 1.

3 COVID-19 infection history

3.1 How many times did you test positive for COVID-19 in 2020 and 2021?

The results are presented in Table 5.

Number of	Percentage of respondents
positive tests	
0	51
1	42
2	6
3	1
	100

Table 5 Respondents' positive COVID-19 tests in 2020 and 2021

The data pertaining to the number of times respondents tested positive for COVID-19 in 2020 and 2021 showed a Median value of 0 and a Mode value of 0.

3.2 Did any of these infections result in hospitalisation?

Yes, for one respondent.

3.3 Total number of days in hospital for all bouts of COVID-19?

One respondent, a 51 year old First Officer, spent five days in hospital with COVID-19.

3.4 Long COVID diagnosed?

Four respondents were diagnosed with long COVID. They were aged 27, 37, 39 and 57. The oldest victim noted: 'Lost medical due medication to prevent stiffness (long COVID) until return to work. Still on medication, but permitted to fly on lower dose'.

4 Subjective performance assessment post each Furlough

As noted above, the data pertaining to the frequency of COVID-19-related Furloughs and/or temporary pay reductions in 2020 and 2021 showed a Median value of 1 and a Mode value of 1.

Given that the most common experience of Furlough and/or temporary pay reduction was of a single period of same (48% of the total number of respondents experienced a single period of Furlough and/or temporary pay reduction), the analysis focuses on this demographic.

It is important to note that a pilot's performance is partly a function of her/his recency (Campbell and Bagshaw 1999; Kanki, Helmreich and Anca 2010). That is, of how recently the pilot:

- practiced their motor skills
- executed learned routines
- applied experiential knowledge.

As human-factors experts Ron Campbell and Michael Bagshaw put it in their 1999 book *Human Performance and Limitations in Aviation*: 'Flying an aircraft is a psycho-motor skill ... [C]onstant reinforcement of the acquired psycho-motor skills is necessary ... to maintain competence in the flying environment' (Campbell and Bagshaw 1999: 4). Aviation human-factors consultant Captain Linda Orlady notes that: '[M]anual skills degrade when not used' (Orlady 2010: 482). Without reinforcement, skills and knowledge fade. There is a positive relationship between recency and individual performance, and, obviously, between individual performance and safety. Sub-standard individual performance produces latent and active errors. Active errors produce near-misses, incidents and accidents. Accidents cause death, injury, psychological trauma, reputational damage and financial loss. Major accidents have the potential to put the largest airlines out of business. No airline is too big to fail.

Furlough schemes could see pilots spend significant time away from the flight-deck. One Captain, furloughed by his employer, a low-cost airline, on 1 May, 2020, returned to work on 30 October 2021. The Captain, who never tested positive for COVID-19, received no training during Furlough. He operated his first sector on 4 January 2022. Between returning to work and operating, the Captain received '4 x 4 hour sim-sessions'. He observed of his performance on his first sector: 'I felt a bit "behind" the aircraft on the first sector and felt I would not have had any spare capacity to deal with any abnormal situations. By day two it was all coming back. Arose due to 1 year and 10 months away from work'.

Respondents were asked to assess their performance following their first period of Furlough. They reflected on how they performed during their first duty (the location for which could be either the flight-deck or simulator), scoring their performance on a Likert scale of one to ten, one being unsatisfactory and ten being satisfactory. The data is presented in Figure 3.

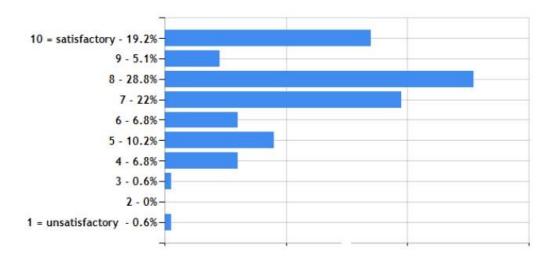


Figure 3 Respondents' subjective performance assessment of their first post-Furlough #1 duty (flight-deck or simulator)

The data showed a Median value of 8 and a Mode value of 8.

Fourteen respondents scored their first duty (flight-deck or simulator) in the range 1–4. One respondent gave his first duty a score of 1. One respondent gave his first duty a score of 3. Twelve respondents gave their first duty a score of 4. These cases are described in detail in Appendix 4.

Respondents were asked to assess their performance following their second period of Furlough. They reflected on how they performed during their first duty (the location for which could be either the flight-deck or simulator), scoring their performance on a Likert scale of one to ten, one being unsatisfactory and ten being satisfactory. The data is shown in Figure 4.

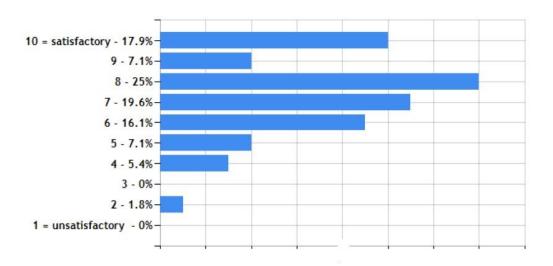


Figure 4 Respondents' subjective performance assessment of their first post-Furlough #2 duty (flight-deck or simulator)

The data showed a Median value of 7.5 and a Mode value of 8.

Five respondents scored their first duty (flight-deck or simulator) in the range 1–4. Four respondents gave their first duty a score of four. One respondent gave his first duty a score of two. These cases are described in detail in Appendix 5.

5 Personal appetite for the job

Flying is a vocation pursued by highly committed individuals (Bennett 2022; Durbin, Warren and Munns 2022). As Durbin, Warren and Munns (2022: 87) observe of the data produced by their survey of pilots and pilot trainers that secured over seven hundred responses: 'Overall, 92% of all respondents strongly, or somewhat agreed, that they felt that they belonged in the aviation industry, 86% that they were committed to staying in the profession, with 23% considering leaving'.

An employee's affective responses, for example, her/his commitment, morale and respect for management, likely correlate with personal and, therefore, organisational performance. Other things being equal, the higher one's morale, the better one's work performance. The better one's work performance, the more productive one's company (Weakliem and Frenkel 2006; Bowles and Cooper 2009).

Commitment, morale and respect for management should be considered safety bellwethers. Undercommitment, low morale and contempt for management may seed latent errors – conditions that may trigger near-misses, incidents and accidents – within organisations (see Reason (2013) for a definition of latent error). Emma Seppälä and Kim Cameron, writing in the *Harvard Business Review*, observe: '[D]isengagement is costly. In studies by the Queens School of Business and by the Gallup Organisation, disengaged workers had 37% higher absenteeism, *49% more accidents and 60% more errors and defects*. In organisations with low employee engagement scores, they experienced 18% lower productivity, 16% lower profitability, 37% lower job growth and 65% lower share price over time [my emphasis]' (Seppälä and Cameron 2015).

The BALPA survey asked respondents to reflect on their appetite for the job before the pandemic (Figure 5) and post the pandemic (Figure 6)

5.1 Appetite for the job before the pandemic

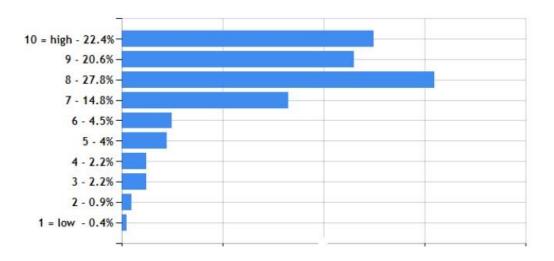


Figure 5 Respondents' appetite for the job before the pandemic

The data showed a Median value of 8 and a Mode value of 8.

5.2 Appetite for the job post the pandemic

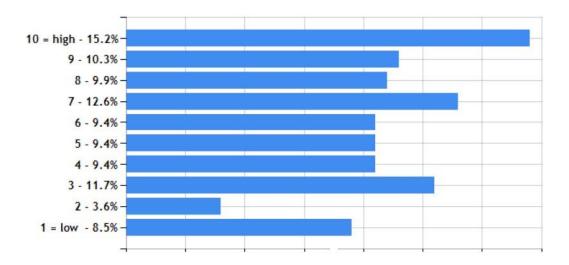


Figure 6 Respondents' appetite for the job post the pandemic

The data showed a Median value of 6 and a Mode value of 10.

6 Personal job satisfaction

The BALPA survey asked respondents to reflect on their job satisfaction before the pandemic (Figure 7) and post the pandemic (Figure 8).

6.1 Job satisfaction before the pandemic

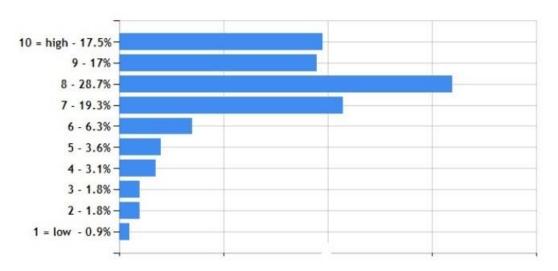


Figure 7 Respondents' job satisfaction before the pandemic

The data showed a Median value of 8 and a Mode value of 8.

6.2 Job satisfaction post the pandemic

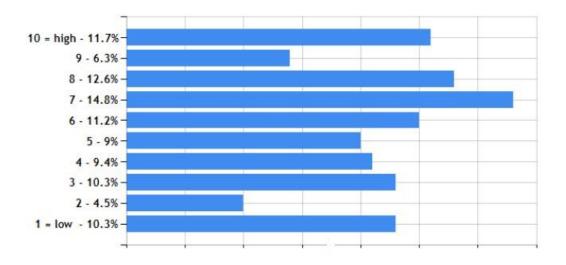


Figure 8 Respondents' job satisfaction post the pandemic

The data showed a Median value of 6 and a Mode value of 7.

7 Personal morale

The BALPA survey asked respondents to reflect on their personal morale before the pandemic (Figure 9) and post the pandemic (Figure 10).

7.1 Morale before the pandemic

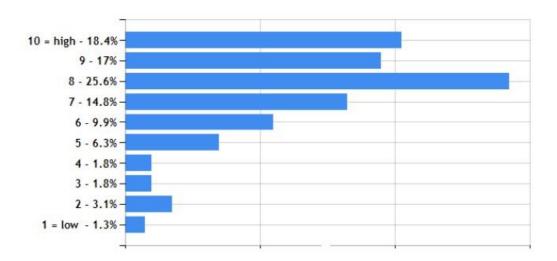


Figure 9 Respondents' personal morale before the pandemic

The data showed a Median value of 8 and a Mode value of 8.

7.2 Morale post the pandemic

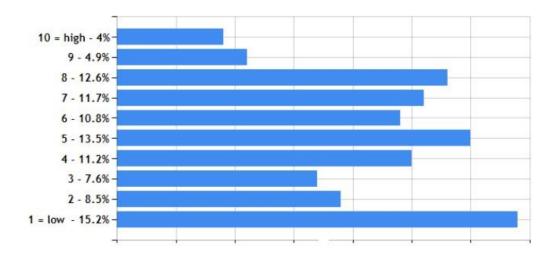


Figure 10 Respondents' personal morale post the pandemic

The data showed a Median value of 5 and a Mode value of 1.

The data suggests that pilots' morale, job satisfaction and appetite for the job fell away over the course of the pandemic. This should be of concern to employers, regulators, passengers and cabin crew. As stated above, there is a positive relationship between morale, job satisfaction and appetite for the job (affective responses) and individual performance, and between individual performance and productivity, other things being equal. Weakliem and Frenkel (2006: 335) note: '[M]orale influences productivity in an approximately linear fashion'.

The more complex the task, the stronger the relationship between job satisfaction and individual performance. The socio-technical activity we know as commercial aviation is a complex undertaking. Piloting an aircraft is a complex task. This suggests a strong linear relationship between job satisfaction and individual performance in aviation.

The link between job satisfaction and individual performance is stronger in the professions: '[Academics] noted that the association of overall job satisfaction with rated performance was stronger for managerial and professional employees than for others (average correlation of 0.31 and 0.15 respectively) [An academic] examined satisfaction and performance at the level of entire organisations. In a study of schools, effectiveness was assessed in terms of academic performance, administrative efficiency and student behaviour. It was found that more effective schools had more satisfied employees ... ' (Warr 2002: 12).

8 Assessment of your employer

The on-line questionnaire asked respondents to reflect on how they felt about their employer before the pandemic (Figure 11) and post the pandemic (Figure 12).

8.1 What was your assessment of your employer before the pandemic?

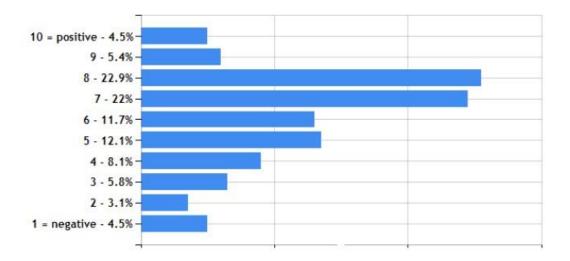


Figure 11 Respondents' assessment of their employer before the pandemic

The data showed a Median value of 7 and a Mode value of 8.

8.2 What was your assessment of your employer post the pandemic?

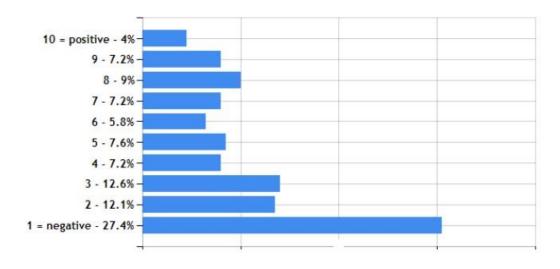


Figure 12 Respondents' assessment of their employer post the pandemic

The data showed a Median value of 3 and a Mode value of 1.

Employees who harbour negative feelings towards their employer may engage in activities inimical to productivity and positive image by, for example, going sick when not actually sick, posting negative comments on social media or ignoring calls to improve work-rate and productivity. Work-study pioneer F.W. Taylor (1911) referred to the deliberate slowing down of production as 'soldiering'. In aviation, soldiering might take the form of pilots ignoring management exhortations to:

- speed turnarounds
- minimise fuel consumption
- control maintenance costs

• apply for regulator-mandated roles.

Employee negativity towards an employer may see the emergence of sub-groups with agendas that may not align with those of the employer, or agendas that work against those of the employer (Bennett 2019, 2020). The managers of organisations that host sub-groups may find it difficult, or impossible, to change working practices in response to environmental perturbations (such as fuel-price fluctuations). Sub-cultures fomented by sub-groups may undermine management initiatives. Sub-cultures act as a drag on functionalism.

8.3 With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better?

Respondents were asked to reflect on whether or not their employer, in mitigating the impacts of the pandemic on employees, could have done anything better (Figure 13).

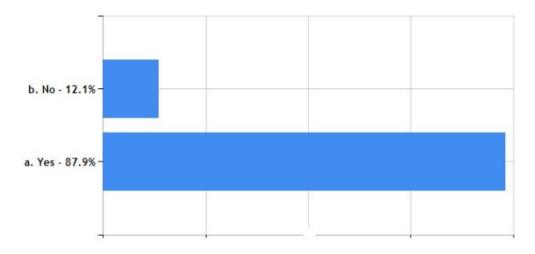


Figure 13 In mitigating the impacts of the pandemic, could your employer have done anything better?

The overwhelming majority of respondents believed their employer could have reacted better to the challenges thrown up by the pandemic. Respondents' narrative responses identified a number of failures. For example, engagement with, and support for the workforce.

8.3.1 Please describe the things your employer could have done better

Pilots' narrative responses were subjected to a quantitative content analysis (QCA). The most significant words are listed in Table 6. A respondent statement illustrates the manner and context of usage. Respondent statements are reproduced verbatim.

Most significant words				
Word	Frequency	Used in context (statement reproduced verbatim)	Live alone?	
pay	61	The executives [at my airline] could have taken a	No	
		bigger pay reduction (20% reduction for 2 months		
		only) while putting rest of crew on Furlough, and		
		tried to change terms and conditions.		
communication	23	Communication during Furlough was nil. Support	No	
		given was nil. We were abandoned and threatened		
		to lose our job if we don't comply with our company		
		desires all the time. We were forced to move base		

		from overseas to the UK to protect our job, leaving	
	22	our home base and country behind.	
redundancy	23	Constant negative, almost purposeful fear-	No
	4.0	mongering emails. Constant threat of redundancy .	
support	19	[We required] support and clarity. A distinct lack of	No
		communication prevented us from making the best	
		of the time. I feel like we were kept on hooks and	
		promises, allowing for nothing but a personal and	
		professional downgrade.	
terms and	17	The employer used the pandemic as a means to a	No
conditions		full land-grab for terms and conditions . As we	
		recover, everything that was taken from us has	
		been held onto. Worse still was the propaganda	
		about how we are 'all in this together', only for it to	
		become apparent that our CEO and other senior	
		managers took large bonuses, while everyone else	
		took long-term and severe pay cuts. Don't promise	
		then not do. Don't mislead.	
T&C	11	At the start of the lockdown, [there was] a	No
		disgusting and opportunistic attempt by the COO	
		[Chief Operating Officer] to severely and	
		permanently deteriorate our employment T&Cs	
		under the guise of 'saving the business', when there	
		was no cost saving involved, but a massive	
		deterioration in conditions and safety/fatigue.	
paid	11	We should have kept everyone on the payroll and	No
		paid everyone a flat rate of 30-40% basic pay,	
		rather than getting rid of the bottom 250 pilots.	
help	10	Middle and lower-level management were largely	No
•		furloughed, with the result that it was almost	
		impossible to contact anyone with any authority to	
		help you.	
salary	9	Negotiating salary cuts and job reductions could	No
, , , , , , , , , , , , , , , , , , ,		have been done more transparently, and in good	
		faith. There was very little to make me believe	
		management acted with either of those.	
		[Management should not have] used the pandemic	
		to permanently adjust the T&Cs to the detriment of	
		the pilot workforce.	
fear	6	I felt the redundancy cuts went too deep and too	No
icai		soon. As a result, I felt under constant fear of	110
		redundancy. I was aware that cuts had to be made,	
		but I felt the company was deaf to many sensible	
		suggestions from the pilot community, which would	
		have allowed a greater level of sharing out the pain	
cupporting	2	among the whole community.	NI-
supportive	3	[There should have been] clearer communication	No
		[and a] more supportive 'In it together' mentality,	
		instead of a ruthless long-term degradation of our	
		T&Cs.	

fired	3	They fired and rehired all pilots, effectively. T&Cs dramatically cut. Scheduling agreement scrapped. Now EASA FTLs [flight-time limitations] are the target, and there has been NO FRM [fatigue risk monitoring/management] scheme in place until very recently.	No
helped	3	[My airline] could have helped me more to change the loan I have with a bank for training, which they and the bank set up, to help me avoid financial hardship.	No
contempt	3	The whole way our company was led through the pandemic/base-closure/redundancy consultation by our COO [Chief Operating Officer] was utterly appalling. The contempt he demonstrated towards the crew workforce was disgraceful. Leadership is not a term I would ever use to describe his personal traits.	O
worry	2	[My airline should have] continued the initial Teams meetings, etc. I did worry about skill-fade and felt slightly forgotten. I was midway through a type-change in March 20, and so was bottom of the pile for returning – hence two years of Furlough.	No
anxiety	2	[My airline] launched a process to try to eliminate 1/3rd of the workforce, something we now know was totally unrealistic, given [that] a year later we are in a massive shortage. The anxiety , worry and stress this caused, on top of all [the] other environmental factors already affecting us, was unforgivable. They tainted how we view the company, and made any chance of goodwill when things get busier next to impossible.	Yes
worrying	2	At the beginning of the pandemic, there was a complete lack of communication from the company. I understand that the situation was complicated and uncertain, but there was radiosilence, which was worrying and disconcerting, and has given me a lasting impression that leadership at the top of the company is severely lacking. To have improved communication and shown leadership it would have only taken some regular emails stating that they are assessing the situation. But instead, we heard hardly anything from senior management.	No
compensation	2	No 'thank you' at all in financial compensation from the company for meeting them with 20% pay-cut. No rectification of payment whatsoever and increase in living-cost indexation, or compensation.	Yes
sacked	2	The way [my airline] sacked cabin crew, brutally threatened pilots [and] took an enormous long-term lunge for terms and conditions, whilst holding us all in contempt and writing off years of hard-	No

		earned employee morale and spirit, was actually abhorrent.	
bullying	2	[What could my airline have done better?]: Communication strategy; Offering actual leadership; Being non-confrontational and pulling people together; Not threatening and bullying staff.	No
angry	2	A mistake was made when people were put back on full pay. The company elected to put the long-haul pilots on 100% before the rest of us. I think that made a lot of people angry .	No
depression	1	I am a contractor, and after IR35 [off-payroll working] and the pay cut, I now have three jobs and work every day of the month to keep the bills paid and have any sort of life. I feel unappreciated and demoralised. I suffered from depression last year and could not risk being taken off line and not earning anything. A consequence of this was [that] my command was delayed. [Contractors] constantly feel on edge.	Yes

Table 6 Most significant words in pilots' narrative responses to question 8.3.1

9 Assessment of the Civil Aviation Authority (CAA)

Respondents were asked to evaluate the performance of the CAA before the pandemic (Figure 14).

9.1 What was your assessment of the CAA before the pandemic?

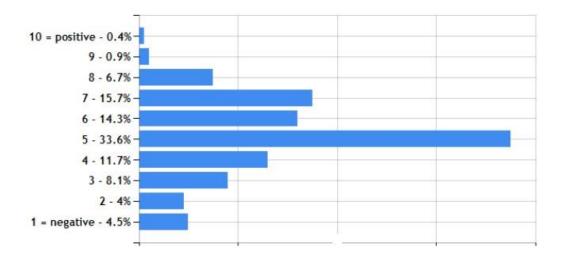


Figure 14 Respondents' assessment of the CAA's performance before the pandemic

The data showed a Median value of 5 and a Mode value of 5.

9.2 What was your assessment of the CAA post the pandemic?

Respondents were asked to evaluate the performance of the CAA post the pandemic (Figure 15).

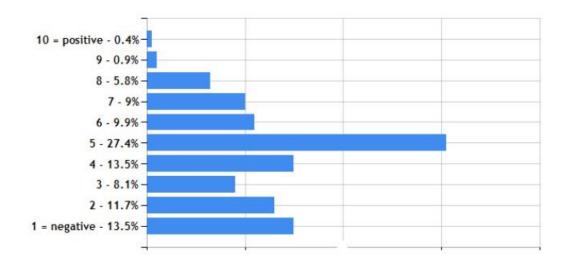


Figure 15 Respondents' assessment of the CAA's performance post the pandemic

The data showed a Median value of 5 and a Mode value of 5.

While an analysis based on the Median and Mode values suggests no change in respondents' opinion about the CAA, it is clear that opinion about the Authority is more *polarised* post the pandemic. Thus, the percentage of pilots who occupied the negative extremity of the Likert scale (positions 1-4) post the pandemic was greater than the percentage who occupied it before the pandemic (Table 7).

Assessment	% Pre	% Post	Direction of change
4	11.7	13.5	Increase
3	8.1	8.1	No change
2	4	11.7	Increase
1	4.5	13.5	Increase

Table 7 The percentage of pilots who occupied the negative extremity of the Likert scale (positions 1-4) pre and post the pandemic

9.3 What could the CAA have done to better mitigate the impacts of the pandemic on employers and employees?

In answering this question, respondents produced almost 3,700 words of testimony. Table 8 presents a sample respondent statement on the matter of what the CAA could have done to better mitigate the impacts of the pandemic on employers and employees for each point on the Likert scale. Thus the first statement, 'I don't have any comment here', was made by a respondent who scored the CAA's performance at 10 (the positive end of the Likert scale).

Scale	What the CAA could have done better	Rank	Airline	Management
point	(respondents' testimony is reproduced verbatim)		offering	role
10	I don't have any comment here.	Captain	Low-cost	No
9	Acted quicker on the rules regarding slots, and how many flights were required to keep them. Airlines were flying empty aircraft, bleeding them of cash to secure their current slots.	First Officer	Low-cost	No
8	Required more regular sim training to keep pilots	First	Low-cost	No
	current.	Officer		

7	They could have done more with the industry to demonstrate that an aircraft environment is very safe. Being a passenger has very little impact on the further transmission of COVID.	Captain	Low-cost	No
6	Lobbied the Government to reduce all mask/testing/quarantine requirements. Every time we tried to clamber out of the trenches, the industry was machine-gunned by the Government for two years, wholly unnecessarily, just to show that it was doing 'something'.	Captain	Full- service	No
5	What did they do? Did they actually participate? This is a regulator that is noticeable by its absence. They were irrelevant.	Captain	Full- service	No
4	Honestly, the list of what is wrong with the CAA is too long. Civil aviation should not be controlled by old-school military boys who know nothing of current requirements. Very badly organised place, with a worse web system. I have spoken to ex-CAA employees who tried to make changes for the better and ended up leaving due to the toxic environment. Not acceptable now that we do not have a better agency (EASA) to rely on.	Captain	Charter	No
3	CAwho? They did not step in to stop British Airways firing and re-hiring, and other than giving alleviations to support the airlines commercially, I saw nothing from the CAA to ensure pilots stayed in a safe space mentally.	Captain	Full- service	No
2	I get the impression the CAA do not actually care about the working conditions or treatment of UK pilots. Sadly, the regulator is funded by the major airlines and that is who they serve. The regulator did change the validity period of 'currency', but I do not think that was to the pilots' advantage.	First Officer	Low-cost	No
1	Employ more staff to deal with licensing issues. Actually have a genuine concern for flight safety rather than focus on trivial items.	Captain	Charter	No

Table 8 What the CAA could have done better

10 Assessment of the UK aviation industry in general

Respondents were asked to evaluate the response of the UK aviation industry to the pandemic (Figure 16).

10.1 The response of the UK aviation industry to the pandemic was [Likert Scale 1=Inadequate 10=Adequate]

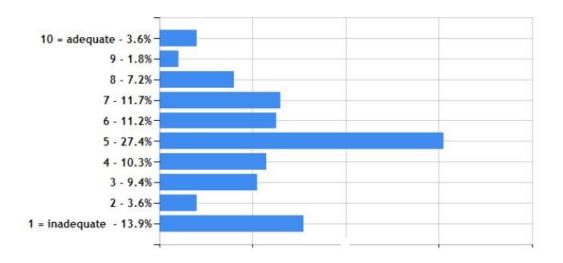


Figure 16 Adequacy of the UK aviation industry's response to the pandemic

The data showed a Median value of 5 and a Mode value of 5.

The percentage of pilots who occupied the positive extremity of the Likert scale (points 8-10) was 12.6%. The percentage of pilots who occupied the negative extremity of the Likert scale (points 1-3) was 26.9%.

10.2 Observations on the UK aviation industry's response to the pandemic

In answering this question, respondents produced almost 3,900 words of testimony. Table 9 presents a single respondent statement about the UK aviation industry's response to the pandemic for each point on the Likert scale. Thus the first statement, 'Industry responded very well, despite no help from the government, and did the responsible thing', was made by a respondent who scored the industry's response at 10 (the positive end of the Likert scale).

Scale	Observations on the UK aviation industry's	Rank	Airline	Management
point	response (respondents' testimony is reproduced		offering	role
	verbatim)			
10	Industry responded very well, despite no help	First	Charter	No
	from the government, and did the responsible	Officer		
	thing.			
9	The aviation industry seemed to be working	First	Low-cost	No
	towards a combined goal in a unified manner.	Officer		
8	There is not much the industry could have done	Captain	Low-cost	No
	about a global lockdown during a pandemic.			
	Airlines and crew had to comply with government			
	rules. And airlines had to cut cost to stay afloat.			
7	Survival of the fittest when the Government were	First	Low-cost	No
	doing so little to support the industry. Airlines	Officer		
	shored-up finances and battened-down the			
	hatches. Some went under, others survived. Airline			
	passenger booking policies (refunds, vouchers, trip			
	moves) all helped keep money/passengers in the			
	industry.			
6	Response from the industry was primarily panic.	First	Low-cost	No
	Airlines were very quick to make redundancies of	Officer		

	highly skilled people, who in some cases had significant pilot-training debts.			
5	The industry could do very little. Hands tied behind backs springs to mind. At the mercy of the DfT [Department for Transport] and Grant Shapps's [Secretary of State for Transport of the United Kingdom] woeful decision-making. I feel the government was utterly useless and did nothing to help aviation whatsoever.	Captain	Full- service	No
4	Too much panic. Pilots [are] professionally-trained to deal with crises. Not consulted, or even informed on planning and solutions. Seems disorganised, panicked. Ultimately, missed opportunities resulted in lost jobs and poor morale.	First Officer	Full- service	No
3	Little or no response. Clearly no business continuation [i.e. business continuity] planning had been done for a possible pandemic.	Captain	Full- service	No
2	Grant Shapps is a complete plonker [a slang expression denoting an inadequate person]. Out of his depth. Nil understanding of cause and effect.	Captain	Charter	No
1	Some of us were expected to do 24-hour duties. Some of us were left to our own devices, and offered minimal training post-pandemic and expected to immediately perform to a high standard. We were also left financially crippled without proper industry support from the government.	First Officer	Low-cost	No

Table 9 Observations on the UK aviation industry's response to the pandemic

11 Assessment of the collective response of United Kingdom aviation industry representative bodies to the pandemic (for example, industry trade unions, Airlines UK, The British Aviation Group, The Airport Operators Association, the UK Flight Safety Committee, the Royal Aeronautical Society)

Respondents were asked to evaluate the adequacy of the collective response of UK aviation industry representative bodies to the COVID-19 pandemic. The results are presented below (Figure 17).

11.1 United Kingdom aviation industry representative bodies' collective response to the pandemic was [Likert Scale 1=Inadequate 10=Adequate]

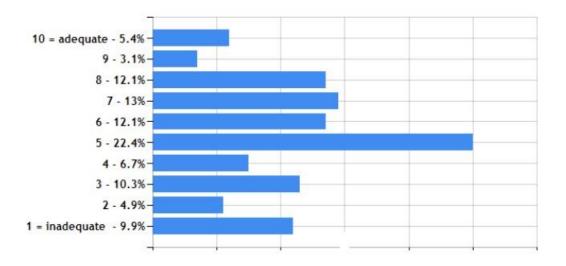


Figure 17 Adequacy of the collective response of aviation industry representative bodies to the pandemic

The data showed a Median value of 5 and a Mode value of 5.

11.2 Observations on the collective response of United Kingdom aviation industry representative bodies to the pandemic. Please feel at liberty to comment on the performance of individual bodies [narrative response]

In answering this question, respondents produced almost 3,500 words of testimony. Table 10 presents a single respondent statement about aviation industry representative bodies' collective response to the pandemic for each point on the Likert scale. Thus the first statement, 'I do not think there is much more they could have done. The BALPA reps in my company managed to stop the company from using the pandemic as an excuse to change our terms and conditions, and negotiated part-time working to avoid any compulsory redundancies', was made by a respondent who scored industry representative bodies' collective response at 10 (the positive end of the Likert scale).

Scale point	Observations on industry representative bodies' collective response (respondents' testimony is	Rank	Airline offering	Management role
	reproduced verbatim)			
10	I do not think there is much more they could have done. The BALPA reps in my company managed to stop the company from using the pandemic as an excuse to change our terms and conditions, and negotiated part-time working to avoid any compulsory redundancies.	Captain	Low-cost	No
9	BALPA campaigned hard for their members, both in terms of eligibility for Furlough pay, pressure on MPs to permit resumption of air services, pressure to reduce costly virus testing for our passengers [and the] lifting of overseas restrictions. They were also superb at saving all the pilot jobs at easyJet UK.	Captain	Low-cost	No
8	BALPA, Airports and most airlines did as well as they could. Government did not help by not	Captain	Charter	No

	working with the airlines and changing the rules at			
7	short notice. Not much they could do to ease the pain of loss of	Captain	Low-cost	No
	earnings, but BALPA have continually strived to			
	address the numerous issues faced by pilots, and in the case of easyJet, they have achieved			
	incredible things. Other bodies have			
	communicated well with pilots on safety and			
	currency issues.			
6	Should have been lobbying the government harder, but not too much they could do, I suppose.	First Officer	Full- service	No
	On a more local level, my confidence in BALPA at	Officer	service	
	both national, but more specifically the BACC			
	[British Airways Company Council] is between 0			
	and 1 out of 10. Badly handled at every step.		- "	
5	The airport authorities did well to cut costs by mothballing terminals etc. However, I understand	First Officer	Full- service	No
	Heathrow Airport Limited made the airlines fly	Officer	SEI VICE	
	their slots or risk losing them. If this is true, it			
	helped neither the airlines nor the environment.			
4	BALPA have tried, but have been boxed-off by	Captain	Full-	No
	both the Regulator and the Government. The industry has been ignored.		service	
3	The industry was proportionally more affected	Captain	Low-cost	No
	than most other industries. Contractors in			
	particular were particularly badly affected, and			
	BALPA did very little to help our cause. The			
	implementation of IR35 [off-payroll working] in April 2021 had the single biggest impact – bigger			
	than the pandemic – and yet BALPA have done			
	nothing to help us resolve the problem.			
2	I can only comment on BALPA. They were culpable	Captain	Full-	No
	in allowing the changes to our terms and		service	
	conditions. Our Crew Council were incompetent, and taken advantage of. BALPA HQ should not			
	have allowed this. Make no mistake – all pilots			
	were very aware of the dire situation we were in			
	and would have accepted any changes on a			
	temporary basis to keep the company afloat, with a review further down the line. The fact that the			
	changes were made permanent was galling. BALPA			
	are supposed to protect our industry. They did			
	not.			
1	There should have been a stronger stance from	Captain	Charter	No
	day one, including legal challenges to over-the-top measures from the UK government and devolved			
	governments.			
	0			

Table 10 Observations on the collective response to the pandemic of United Kingdom aviation industry representative bodies

12 Assessment of UK national governments' overall response to the pandemic (effectively, UK residents are governed by four national assemblies)

Respondents were asked to evaluate the overall response of the United Kingdom's four national assemblies (Northern Ireland, Scotland, Wales and England) to the COVID-19 pandemic. The results are presented below (Figure 18).

12.1 The overall response of UK national governments to the pandemic was [Likert Scale 1=Inadequate 10=Adequate]

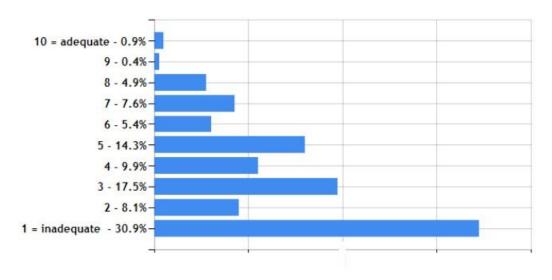


Figure 18 Adequacy of UK national governments' response to the pandemic

The data showed a Median value of 3 and a Mode value of 1.

12.2 Do you think the UK's fragmented system of government (the UK has four national assemblies) reduced the effectiveness of the response to the pandemic? [Y/N]

Respondents were asked if they thought the UK's fragmented system of government had reduced the effectiveness of the response to the pandemic. The results are presented below (Figure 19).

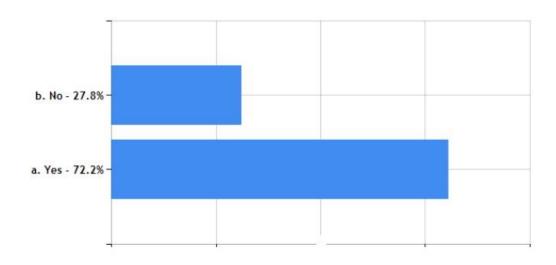


Figure 19 Did the UK's fragmented system of government reduce the effectiveness of the response to the pandemic?

12.2.1 If 'YES', in what ways did the UK's fragmented system of government reduce the effectiveness of the response to the pandemic?

In answering this question, respondents produced over 3,000 words of testimony. The statements in Table 11 are illustrative of the criticisms made by those respondents who believed the UK's fragmented system of government reduced the effectiveness of the response.

Observations on the UK's fragmented system of government (respondents' testimony is reproduced verbatim)	Rank	Airline offering	Management role
Different rules depending on which country you operated out of. Lack of co-ordination in response, causing confusion among crews and passengers alike.	Captain	Charter	No
Too much competition between states. Until recently, harsher restrictions were seen as the government 'caring more', so Scotland and Wales seemed to be hell-bent on having harsher restrictions than England. More mask wearing, more social restrictions, vaccine passports etc. Case-rates seemed unaffected by any of these measures, even when implemented in only one state, so this just prolonged how long it took for normality to return.	First Officer	Low-cost	No
The UK government should have invoked disaster management and removed the right of devolved governments to interfere. It has endangered the Union of the UK.	Captain	Charter	No
They [the devolved governments] did not seem to care about helping anyone or any employers, industries, etc. They seemed to me to be trying to outdo each other in level of severity of rules, speed of implementation, etc., and very obviously no thought about any of it. Reacting rather than acting. It was appalling. I am very glad I do not live in Wales or Scotland. While Westminster is not perfect, it is the best of [a] bad bunch I think now that the devolved parliaments should be scrapped.	First Officer	Low-cost	No
Different rules for different parts of the country was all about political point scoring!	Captain	Full- service	No
Health decisions should have been centralised from the start, and devolved administrations, frankly, put back in their boxes. As we are still seeing even now, they have become a political point-scoring device for the various administrations and cause even more confusion, expense, etc., for both operators and customers. The different approaches between countries in the	Captain	Charter	No

First	Full-	No
Officer	service	
First	Low-cost	No
Officer		
First	Low-cost	No
Officer		
Captain	Low-cost	No
	Officer First Officer First Officer	Officer service First Low-cost First Low-cost Officer

Table 11 Ways in which the UK's fragmented system of government reduced the effectiveness of the response to the pandemic

The comments made by the First Officer about 'differing scientific advice' and not being able to trust what was being said reveal an inconvenient truth about science – that far from being a stable, coherent and reliable body of knowledge, science is an *unstable* and potentially *incoherent* and *unreliable* body of knowledge, the nature of which is influenced by scientists' assumptions about the scientific phenomenon in question, whether it be dark matter, black holes, global warming or viruses such as COVID-19. Thus, what science says about a phenomenon such as dark matter or COVID-19 is contingent on scientists' assumptions about the origins, nature and behaviour of that phenomenon. Variations in scientists' assumptions about the origins, nature and behaviour of a phenomenon produce diverse and potentially contradictory understandings. It is reasonable to argue that rather than there being a single, coherent science of COVID-19, there are *sciences* of COVID-19. The extent to which the diverse policies of the UK's devolved governments vis-à-vis COVID-19 reflected the *contingency* and *mutability* of the science pertaining to COVID-19 merits discussion.

The fact that what science says about a phenomenon is contingent on scientists' assumptions about the origins, nature and behaviour of that phenomenon means that science can be manipulated to serve a political end (provided, of course, that an interested party is able to influence or, indeed, manipulate scientists' assumptions). Potentially, therefore, science, like sport, is politics by other means. To use a term coined by philosopher-of-science Professor Bruno Latour (Latour and Woolgar 1979; Latour 2005; Kofman 2018), science is *socially produced*. It is an *artefact*. It is *made*.

The funding of scientific research by parties with specific agendas, such as minerals extraction companies, oil companies, wind-turbine manufacturers and solar panel manufacturers, may influence the direction and, potentially, the conclusions of that research. Without funding, scientists cannot achieve their research output targets. Scientists who fail to meet their targets stand little chance of gaining promotion. Indeed, they may be dismissed. Consequently, scientists may collaborate with parties determined to see them reach conclusions that support a particular agenda or world-view. The more ambitious the scientist, the more vulnerable s/he is to manipulation, potentially.

A final observation on the use and abuse of science during the pandemic. During the pandemic, it became fashionable for politicians to claim that, in their decision-making, they were merely 'following the science of COVID-19'. Given the fact that science, far from being a singular and coherent body of knowledge, is suffused with contradictions and uncertainties, one is minded to ask 'which science of COVID-19'?

If one accepts that there is >1 science of COVID-19, then one is obligated to explain which science one is following *before* making claims and decisions, issuing advice and making laws. Transparency secures compliance.

12.3 Do you have any observations on the responses of individual UK national governments?

In answering this question, respondents produced over 2,500 words of testimony. The statements in Table 12 are illustrative of respondents' observations on the responses of national governments.

Observations on the responses of individual	Rank	Airline	Management
devolved administrations (respondents' testimony		offering	role
is reproduced verbatim)			
Many! None were good. Scotland and Wales in	Captain	Charter	No
particular became draconian and drunk on power			
with their responses, many of which were massive			
overreaches that should never have been			
considered in a Western democracy, and most of			
which made zero difference to health outcomes.			
I am confident that our response to the last two			
years will prove to have been devastatingly			
damaging to the country for years and years to			
come (and probably largely to the disadvantage of those who were never at risk from COVID-19 in			
the first place).			
One of the bugbears with approaches of many	Captain	Low-cost	No
governments worldwide has been how science has	Сартані	LOW-COSt	NO
been portrayed – absolute, exacting, irrefutable –			
and how 'safety' has been interpreted. Safety has			
seemingly been reduced to risk			
aversion/elimination, rather than effective risk			
management.			
Absolutely awful. Could not have been much	Captain	Low-cost	No
worse, Furlough being the only positive. The traffic	'		
light system confused and frightened the public			
with short-notice changes. Expensive testing			
regime. Complicated PLF [Passenger Locator			
Form]. Hotel quarantine. All dressed up as public			

health. As the world recovered, UK governments			
clung on to restrictions, massively slowing our			
recovery compared to other similar nations.			
Government response was overwhelmingly anti-			
aviation and anti-travel.			
Scotland did things to be deliberately at variance	Captain	Full-	No
to England.		service	
The UK government failed to understand the	Captain	Full-	No
importance of the aviation industry and its need		service	
for support. Constantly changing the COVID			
restrictions at short notice destroyed customer			
confidence. The responses from the Scottish and			
Welsh devolved governments was unhelpful and			
nothing more than political grandstanding.			
Scotland and Wales have taken their tyrannical	Captain	Low-cost	No
abuse of power to eye-wateringly obscene levels	-		
throughout, and I suspect would happily keep			
arcane and cruel restrictions in place forever – just			
to show that they are not ruled by Westminster.			
They all did what they thought was right. Could	First	Full-	No
have done without the politics and electioneering,	Officer	service	
e.g. Scotland's obviously pro-leave agenda.			
The other three nations took more sensible	First	Low-cost	No
approaches, whilst England did not.	Officer		
Dreadful. Neglectful. Careless. Heartless and	First	Low-cost	No
woefully inadequate. A comprehensive ignorance	Officer		
of the aviation industry. So bad, that some believe			
it [to be] a green-agenda attack on the industry.			
No grants. No tax breaks. No care.			
Scotland and Wales seemed determined to have	First	Full-	No
tougher restrictions and show that they were not	Officer	service	
part of a united country. The evidence of infection			
and death rates shows this was an unnecessary			
punishment.			

Table 12 Observations on the responses of individual UK national governments

Politicians and political scientists claim certain advantages for the regional devolution of decision-making authority. For example, that devolved decision-making is more likely to produce decisions that reflect local preferences and needs, and that the devolution of power will encourage more people to participate in the democratic process. For example, by attending decision-making fora, joining a political party, engaging face-to-face with political representatives, engaging with political representatives via e-mail and letter, and voting.

However, respondents' comments on the matter of devolution suggest certain drawbacks, viz:

That a devolved system of government renders the management of national crises problematic, especially when devolved administrations make little or no effort to harmonise policy. Many respondents accused the devolved administrations of political point-scoring over Westminster. During the pandemic, however, there were suggestions in the mass media that the Scottish

government had a better understanding of the nature and scale of the COVID-19 crisis than did the Westminster government.

It can be convincingly argued that national crises, such as the threat to public health and national prosperity posed by a novel virus such as COVID-19, require a national, and therefore unitary, response. If other national security risks, such as the threat of nuclear war (consider Putin's nuclear posturing during the Russia-Ukraine War), are managed at a national level, why not a seriously and chronically disruptive virus such as COVID-19? A Captain at a charter airline observed: 'The UK government should have invoked disaster management and removed the right of devolved governments to interfere'.

Handling a national crisis through the medium of the United Kingdom's devolved administrations would seem irrational at best and irresponsible at worst. If the threat to our survival posed by nuclear weapons is handled at a national level, why not the threat to our survival posed by novel viruses? It is not that devolution makes the co-ordination of policy, effort and countermeasures more difficult. It makes co-ordination impossible.

Then there is the politics. Numerous respondents claimed that at certain times during the pandemic it seemed as if the leaders of the devolved administrations were exploiting the crisis for their own political – that is, partisan – ends. For example, by using policy to make themselves appear more competent or more rigorous or more proactive or more scientific or more caring than the Westminster government. One might, with justification, question the morality of certain politicians' weaponisation of the COVID-19 pandemic. Weaponisation could be seen *in all four administrations* – Westminster, Scotland, Wales and Northern Ireland.

13 Assessment of the Westminster Government's safeguarding of the interests of commercial aviation during the pandemic

Respondents were asked to evaluate the success with which the Westminster Government safeguarded the interests of commercial aviation during the pandemic (Figure 20).

13.1 The Westminster Government's safeguarding of the interests of commercial aviation during the pandemic was [Likert Scale 1=Inadequate 10=Adequate]

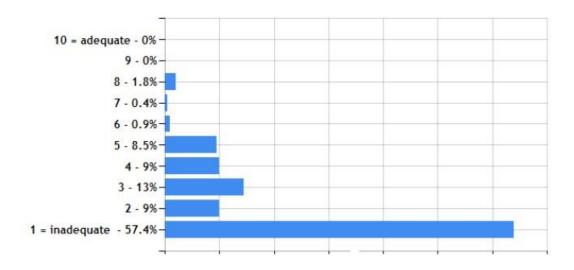


Figure 20 Adequacy of the Westminster Government's performance in safeguarding the interests of commercial aviation

The data showed a Median value of 1 and a Mode value of 1.

13.2 Assessment of the Westminster Government's safeguarding of the interests of commercial aviation during the pandemic

In answering this question, respondents produced over 3,750 words of testimony. The statements in Table 13 are illustrative of respondents' observations on the response to the pandemic of the Westminster Government (led throughout the health crisis by Prime Minister Boris Johnson).

Observations on the response of the Westminster Government (respondents' testimony is reproduced verbatim)	Rank	Airline offering	Management role
Absolutely zero support (financial or otherwise) shown for the aviation sector. You can Furlough airline staff but you cannot Furlough aeroplanes. Airlines have significant costs and no means of generating any revenue.	First Officer	Charter	No
They tried to treat every sector fairly. A very difficult balance, but they did pretty well.	Captain	Full- service	No
Useless Transport Secretary who has almost no backbone to stand up for the aviation industry. It occasionally seemed too much of a coincidence that the COP26 summit was taking place the very same year that, time and time again, commercial aviation was pushed [to] the very bottom of the priority list, or indeed swept under the carpet entirely. I understand the need for more environmentally-friendly travel solutions, but at least government could have used this time of reduced working to work with [the] airlines, and provide them with support to attain that green future we all want.	First Officer	Charter	No
There are very few British carriers left in the UK and the Government appeared to be willing to let them all go by the wayside, with no specific support. I am just thankful that more British carriers did not fail.	First Officer	Full- service	No
Not interested whatsoever. Former PM May [Theresa May] had a significantly better understanding of the damage that was being done to the industry by the present Government's poor response [H]aving Shapps with an open dispatch box and UK Flag or Naval flag behind him in every interview showed that presentation and style over substance was all that we could expect.	First Officer	Full- service	No
The Westminster Government was hamstrung in its position by Her Majesty's Opposition, who at every stage wanted to hold the country back from opening up the economy and travel. The Government seemed dragged back and slower to respond to emerging from the pandemic by an Opposition locked in a negative, Doomsday style	Captain	Charter	Yes

	-		
of thinking. The Government should have done a			
lot more to support commercial aviation,			
particularly now we are facing the huge			
uncertainty in the security of air travel routes and			
fuel prices with the crisis in Ukraine.			
In one word, 'laughable'. Most actions were taken	First	Low-cost	No
with little/no regard for the impact on commercial	Officer		
aviation, or the science, and [were] purely political			
or for the visuals. As demonstrated time and time			
again, closing down international air travel or			
forcing people into quarantine did not stop the			
spread of the virus. Where precautions were put			
in place, the benefits were quickly undone when			
the passengers were on the ground, e.g. huge			
queues at security, [the] mixing of passengers			
from red list countries and other countries, etc.			
Very poor. Ill thought-out restrictions to	Captain	Low-cost	No
international travel. Slow to recognise that they			
had to change. Did not supply additional support			
to the industry [which] was being affected in a far			
greater way than many others. There was an			
assumption made that [the] airlines would look			
after, and support their employees. This was not			
the case. The Government should have placed			
specific requirements regarding staff to be eligible			
for direct financial Government support.			
Good. What else could they do?	First	Full-	No
	Officer	service	
Why can't I select Zero? They have never cared	First	Full-	No
about aviation and seem to have seen the	Officer	service	
pandemic as an opportunity to end the industry.			
The testing and PLF protocols have never made			
any logical sense. I would not have minded so			
much if the PCR tests (that were sold as being			
required to track new variants) were actually			
sequenced, rather than being binned by the			
testing providers.			
	1	1	

Table 13 Observations on the Westminster Government's safeguarding of the interests of commercial aviation

There was a strong feeling amongst respondents that the Westminster Government had little interest in supporting the aviation industry and ensuring its survival. If this perception reflects the reality of what happened during the pandemic, then the Johnson Government was willing to countenance the failure of an industry that creates wealth, opportunity and good publicity for the United Kingdom (Air Transport Action Group 2020). A Captain at a charter airline observed: '[A]t the end of March 2020, Sunak [Rishi Sunak, Chancellor of the Exchequer] stood up in Parliament and said there would be special measures for aviation. It never happened. They could not even bring themselves to drop APD [Air Passenger Duty] tax. I am convinced they would hope some would [go] bust, then that would fit in nicely with their reduced carbon footprint nonsense ... green-washing at the expense of people's livelihood. I wrote to my MP to ask why nothing was being done to help. The

reply was staggering. Basically, I was told it was inevitable there would be job losses. This from an MP who has the third largest airport in the south east in her constituency'. In November 2021, Prime Minister Boris Johnson told the House of Commons that he believed 'clean, green aviation' would come to pass before any expansion of capacity at Heathrow Airport. Previously Mr Johnson, when the Member of Parliament for Uxbridge and South Ruislip, had threatened to lie down in front of the bulldozers to prevent the construction of a third runway at Britain's busiest and most important air transport hub. Responding to the Prime Minister's November 2021 statement, Geraldine Nicholson, from the Stop Heathrow Expansion campaign group, commented: 'The Prime Minister knows that Heathrow expansion would so badly undermine our ability to meet new climate legislation, but also would result in toxic levels of air pollution in areas around the airport. Together with the Government's pledge not to commit a penny in funding for the project, this is surely the end of it. It is the news our communities and wider environment deserve' (Nicholson cited in Drew 2021).

Arguments against a third runway at Heathrow ignore several facts, all of which are inconvenient to the environmentalist discourse:

- That passengers prefer Heathrow over the capital's satellite airports
- That Heathrow is one of the UK's most important economic dynamos, creating wealth (which supports the NHS, education, social housing and other national priorities) and opportunity. Given the damage caused to the UK economy by the 2008 world financial crisis, COVID-19 pandemic, Russia-Ukraine War and increases in raw materials costs, there is a strong case for expanding income-generators like Heathrow
- That, paradoxically, Heathrow expansion may produce environmental benefits, due to the inverse relationship between capacity and delay: '[Emissions] benefits [accrue] from reduced stacking and ground holding due to a reduction in delays' (Airports Commission 2015: 82).

It is worth asking what, exactly, Prime Minister Boris Johnson thinks about Britain's air transport industry. In seeking to understand Johnson's view of aviation, it is important to note that culture trickles gravity-like from the top of an organisation to the bottom. Johnson's beliefs influence his Ministers' behaviour.

In November, 2021, Prime Minister Johnson used a private aircraft to return to London from the COP26 Environmental Summit in Glasgow, in preference to using Britain's rail network (heavily promoted by the Johnson administration) (Mason 2021).

Government policy on the environment is informed by the belief that global warming can be slowed, if not stopped. The dominant narrative on all matters environmental is that things can be made better. There is a view, however, that, because of factors such as natural economic growth and the sheer complexity of the problem of global warming (cause-effect relationships are complex and often opaque), not only can global warming not be stopped, it cannot even be slowed. It is possible it will accelerate. Some fifteen years ago, journalists Paul Saunders and Vaughan Turekian (2007) described the problem and prognosis thus: '[T]he mounting scientific evidence, coupled along with economic and political realities, increasingly suggests that humanity's opportunity to prevent, stop, or reverse the long-term impacts of climate change has slipped away. In fact, while greenhouse gas intensity (emissions per unit of gross domestic product) of both developed and developing economies has decreased significantly over the past decade as a result of greater efficiency measures, overall greenhouse gas emissions have nevertheless continued to rise. That is because as economies grow, they consume more energy and produce more carbon dioxide. And, obviously, each country wants its own economy to grow [my emphasis]'.

While it is laudable that governments and publics have become more environmentally aware, it is important that they are realistic about what can be achieved. If gains can be made (and this is a big 'if'), these should not come at the expense of wealth-creation, for it is wealth that pays for social services such as schools and the NHS. Further, they should not come at the expense of national security. A government's *primary task* is to protect its population from *acute physical harms* occasioned, for example, by:

- nuclear strikes
- incursions by hostile forces
- civil war (the Northern Ireland Troubles amounted to a slow-burn civil war)
- individual acts of domestic terrorism (such as the 2017 Manchester Arena bombing)
- civil disorder (the English riots of 2011 being an example)
- serious criminality
- cyber attacks that disable critical infrastructure (in May 2021 a cyberattack on US company Colonial Pipeline forced it to shut its pipeline network)
- energy blackmail.

Other tasks, such as protecting the environment, are *secondary*. Given Russia's current posture, it is vital that the UK government takes steps to secure Britain's energy supplies. Energy security is national security. Given the positive relationship between diversification and security (more of the former delivers more of the latter), the UK government must invest more in wind, solar, hydroelectric, tidal barrage, coal, nuclear, oil and gas (that is, British oil and gas, including that obtained through fracking). In time, one would expect to see the rebirth of Britain's coal industry with, perhaps, twenty mainland 'superpits' employing 15,000 or more workers directly, and many more indirectly. Good for national security, good for jobs and good for the Exchequer.

14 Assessment of the international response to the pandemic

Respondents were asked to evaluate the success of the international response to the 2020-2021 COVID-19 pandemic against three criteria: Organisation; Thoughtfulness; Coherence (Figures 21, 22 and 23).

14.1 The international response to the pandemic was [Likert Scale 1=Disorganised 10=Organised]

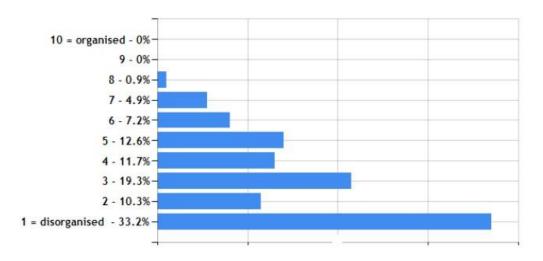


Figure 21 Degree of organisation of the international response to the pandemic

The data showed a Median value of 3 and a Mode value of 1.

14.2 The international response to the pandemic was [Likert Scale 1=Thoughtless 10=Thoughtful]

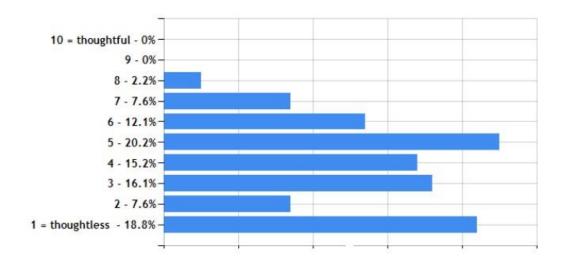


Figure 22 Degree of thoughtfulness of the international response to the pandemic

The data showed a Median value of 4 and a Mode value of 5.

14.3 The international response to the pandemic was [Likert Scale 1=Incoherent 10=Coherent]

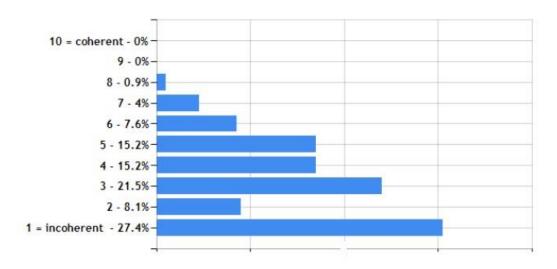


Figure 23 Degree of coherence of the international response to the pandemic

The data showed a Median value of 3 and a Mode value of 1.

The Median values abstracted from the three measures of the quality of the international response to the pandemic – degree of organisation, thoughtfulness and coherence – suggest disorganisation, thoughtlessness and incoherence in the international response.

Victims of the disorganisation, thoughtlessness and incoherence of the international response include the general public and, of course, pilots and cabin crew operating international services. Respondents were asked to recount the best and worst aspects of operating into foreign states during the COVID-19 pandemic.

14.4 Please describe the best and worst experiences you had when operating into foreign states during the pandemic

This question produced almost 4,000 words of testimony. The statements in Table 14 are illustrative of respondents' observations on the best and worst aspects of operating into foreign states during the COVID-19 pandemic.

Observations on the best and worst aspects of operating into foreign states (respondents'	Rank	Airline offering	Management role
testimony is reproduced verbatim) Aggressive COVID testing procedures for nasal	Captain	Freight	No
swabbing. Viz: Bahrain. Utterly unacceptable and		Ö	
bordering on assault. Some (not all) of our			
management conveniently avoiding Bahrain, or at			
least only choosing the isolation hotel to avoid			
PCR testing. Not leading from the front. Same for			
Leipzig in Germany. Swabbing procedures			
tantamount to physical assault. Management			
seeming unable (or unwilling perhaps?) to bother			
to try and stop this barbaric swabbing method.	Finat.	r. II	N
The worst was being treated to room confinement in China, the country that either invented COVID	First Officer	Full- service	No
or allowed it to escape. The best experience was	Officer	Sel vice	
going to more civilised countries where you were			
allowed to exercise common sense. So, no hotel			
confinement, but asked to maintain social			
distancing and wear face coverings.			
Worst [was] being treated like an infected alien in	Captain	Full-	No
Italy. Best was being thanked for operating in		service	
Albania.			
The Member States all have their own rules, but	Captain	Full-	No
China and the Far East have been horrific. Horrific		service	
treatment of people in horrific overnight			
conditions, and we have been treated like the			
virus it has been inhumane.			
There was no good experience. Everything was	First	Low-cost	No
disjointed. Staff cuts meant that flights could not	Officer		
be handled properly and passengers regularly had			
to get back onto aircraft over paperwork. Overall,			
nobody responded logically to the pandemic and			
made operating a near-impossibility.	5 11	F 11	NI -
In many other parts of the world (Asia mostly) the	First	Full-	No
response has been knee-jerk and unnecessary.	Officer	service	
Why bother doing PCR tests and showing vaccine			
certificates if you then still need to isolate. What is the point?! My best experience was in Europe,			
flying on holiday from Spain to Denmark. All very			
easy. No tests. No paperwork Denmark was			
relaxed and pragmatic with its COVID policies.			
China. Treated like sub-humans. Continues to this	First	Full-	No
day. Multiple day-room quarantine. Unable to	Officer	service	
leave hotel room. Barbaric hotels.			

Being forced to isolate in a Portakabin in the middle of winter for 2-3 days at a time and unable to leave the building until operating out again. Reliant on food being delivered in hot boxes, to be left out in the snow for us to collect. Basic bedonly accommodation in the room. Communal toilets and showers. Best experience: still being able to fly, and repatriating some UK citizens stuck overseas in the early days of the pandemic (whilst still employed!).	Captain	Charter	Yes
Lots of tit-for-tat restrictions between different countries that did not seem to be based in science. Most countries seemed to adopt a xenophobic approach, despite the fact that variants can easily emerge domestically, too.	Captain	Low-cost	No
Worst: China and its abhorrent room isolation. Luckily, I did not end up incarcerated in one of their 'facilities'. Best: Israel informing our company about strict new testing, that lead to us having to report to work earlier than usual for extra testing, then when arriving in-country to find they didn't require any tests at all. Just typical of all the nonsense we constantly get bombarded with!	Captain	Full- service	No

Table 14 Respondents' observations on the best and worst aspects of operating into foreign states during the pandemic

It is clear from the testimony that there were wide variations in the way individual nation states framed and responded to the COVID-19 pandemic. Responses ranged from the pragmatic (living with the virus) to the draconian (eliminating the virus through zero-tolerance measures).

Regarding the latter response, China's behaviour merits examination. China's dogged adherence to its zero-COVID policy has seen city-wide lockdowns long after other countries have opened up. While there is mounting evidence that it is possible for vaccinated populations to live with the virus (consider, for example, the United Kingdom's experience), China's approach is characterised by path-dependency - China's leaders, having decided that it is possible to eliminate the virus, will not be persuaded that there are other ways of handling the COVID problem. China's path-dependency speaks to its authoritarian, top-down style of government. In the absence of critique, China's government is afflicted with groupthink (see Janis (1972) for a definition) and mindlessness (see Bennett (2019) for a definition). This has produced a COVID fundamentalism – a dogged belief that it is possible to eliminate the virus, and a belief that the government is justified in employing any measure, however draconian, to secure that end, including locking-down for weeks some of the largest conurbations on the planet, denying basic freedoms, extinguishing dissent and blaming third parties, especially western nations, for fomenting it (The Guardian 2022). Authoritarian states such as China, Russia, Belarus and North Korea frequently blame outsiders for negative domestic reactions to government policy. Governments give themselves room to act by creating 'dangerous others'. Witness, for example, Ronald Reagan's 1980s characterisation of the USSR as The Evil Empire (Troy 2009) and Putin's 2020s characterisation of Ukraine as a militarised Nazi state and platform for NATO and EU expansion (Soufan and Sales 2022).

14.5 What is your reaction to the World Health Organisation's call for a less partisan and more global and co-ordinated response to pandemic risk?

This question generated over 2,800 words of testimony. The statements in Table 15 are illustrative of respondents' observations on the World Health Organisation's call for a less partisan and more global and co-ordinated response to pandemic risk.

Observations on the World Health Organisation's	Rank	Airline	Management
call for a less partisan and more global and co-	Rank	offering	role
ordinated response to pandemic risk		oneing	1016
(respondents' testimony is reproduced verbatim)			
It is a nice idea, but unenforceable. Countries and	First	Charter	No
blocs will always want to go their own way and not	Officer	Charter	
be hamstrung by meandering diplomacy, as the EU	Officer		
found itself in the early stage of the pandemic.			
The WHO is a joke. Totally corrupted by China. If it	Captain	Low-cost	No
had been open and honest in the first instance,	Captain	LOW-COSt	140
there would not have been a global pandemic.			
There needs to be a coherent plan, which all	First	Low-cost	No
•	Officer	LOW-COST	INO
nations sign up to and support each other whilst	Officer		
trying to understand a new virus.	First	r. II	No
Depends how you deal with China. The WHO	First	Full-	No
clearly did not want to offend China early on,	Officer	service	
which jeopardised the faster response.	6		NI -
It is a good idea on paper, but every country has	Captain	Low-cost	No
different rates of infection and different			
demographics. Not to mention different scientific			
opinions which might cause delays in protecting			
the travelling public.			
The global reaction was one of hysterical,	First	Full-	No
unnecessary and ineffective measures, in my	Officer	service	
opinion. Science and pre-pandemic planning have			
been ignored, and the WHO assisted in this			
reaction by taking Chinese misinformation at face			
value and panicking. I would not want them to			
have influence on the next pandemic.			
Nice thought, but I view it as wishful thinking.	First	Full-	No
Political and cultural differences on a global scale	Officer	service	
simply do not line up to facilitate this. The way			
China is tackling Omicron right now [the BALPA			
on-line survey opened on 16 March and closed on			
6 April 2022] is an example of this.			
WHO tended to speak for the greater good. I	Captain	Low-cost	No
would be inclined to support their position. Some			
nations made politically-driven limitations.			
Given the WHO's behaviour during the last two	Captain	Charter	No
years I can think of no worse organisation to have			
any kind of power over the decisions of sovereign			
states. There needs to be a root-and-branch			
review of all the organisations and groups who			
have had a hand in it, right down to an individual			

level. Any power on decision-making must always rest with the democratically elected governments			
of each country. Otherwise, we are potentially			
giving a group of unelected, unaccountable and			
questionable individuals power to completely			
disrupt our lives yet again. Unacceptable. You only			
need to see the length of time it is taking some			
countries to relax restrictions to see what political			
pressure will do in individual states. I am			
convinced that the U.K. is now in the position of			
normality because of the strong democratic			
culture here. Unaccountable international			
committees with sanction power over individual			
states that do not comply is a bad idea. Also, one-			
size solutions do not fit all.			
If there is a pandemic that is worth doing this for	First	Freight	No
(high-risk like Ebola) it is a good alternative to	Officer		
have less differences in rules and one firm and			
clear goal. The other side of the coin is that this			
power can be exploited when there are light or			
medium-risk pandemics. The people cannot			
choose their leaders in pandemic times, because			
the leaders will be led by the WHO.			

Table 15 Respondents' reaction to the World Health Organisation's call for a less partisan and more global and co-ordinated response to pandemic risk

Regarding respondents' testimony, there was a consensus that while a less partisan and more global and co-ordinated response to pandemic risk was desirable, selfishness, posturing, rivalry and a certain antipathy towards the WHO (several respondents problematised the WHO's relationship with China) would make it difficult to achieve. In hindsight, it is clear that for much of the pandemic there was not so much a world order as a world disorder. Competition for scarce resources during the pandemic created tensions between countries and blocs, as, for example, between the United Kingdom and the European Union (Hockley 2021). Idealism and international politics do not mix well.

In time of crisis, unless nation states and blocs resolve to set aside their differences, pool scarce resources such as vaccines and personal protective equipment and negotiate the crisis in lock-step, health outcomes will be poorer and economic impacts greater.

Other things being equal, public health correlates positively with economic health. An economy damaged by a poorly-managed pandemic is less able to meet post-pandemic healthcare needs and, crucially, is less able to plan for, and meet the demands of, the next health crisis, be it attributable to the arrival on the streets of cheap, potent and potentially deadly psychoactive narcotics (for example, the phencyclidines Ketamine and PCP) (American Psychiatric Association 2013), or a highly transmissible and deadly virus (such as Ebola) (World Health Organisation 2020).

15 Financial compensation

15.1 Approximately what percentage of your salary was paid during each Furlough? Note we are not looking for an exact figure, just an approximation

Respondents were asked to provide an approximate figure for the amount of salary paid to them during each Furlough (Table 16). Respondents were assured that all data would be de-identified and treated as confidential.

Furlough	Percentage of salary paid – minimum	Percentage of salary paid – maximum	Percentage of salary paid – average
1	0	90	59
2	0	99	63
3	0	99	61
4	0	99	60
5	0	99	57
6	0	99	60

Table 16 Compensation by Furlough

15.2 Did you have to sell any of your assets, such as a watch, computer, heirloom, motorbike, car, boat, flat or house, to survive financially during Furlough? [Y/N]

The UK consumer advocacy group Citizens Advice noted that one in five of those who had fallen behind on bills during the pandemic had sold possessions to stay solvent (Howard and Morris 2020). Respondents were asked if they had sold assets during Furlough (Figure 24).

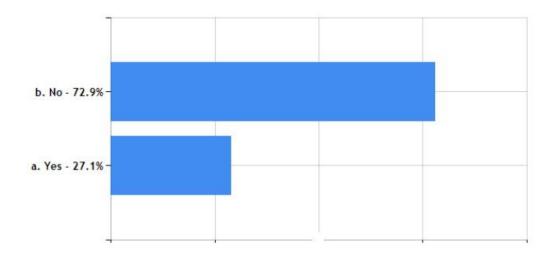


Figure 24 Sold assets during Furlough?

Over one quarter of respondents said they had sold assets during Furlough to survive financially.

15.3 Please describe how each Furlough affected your standard of living. What did you have to give up? What did you have to postpone doing? What did you have to sell, and why?

According to the UK Child Poverty Action Group (CPAG), financial coping strategies during the pandemic included: '[R]unning down ... savings; borrowing from family and friends; cutting spending, including buying cheaper and often less healthy food; juggling bills and missing payments; relying on charitable support; and accessing the government's income support schemes or claiming new benefits where they could' (CPAG 2020: 4).

Asked to describe how Furlough had affected their standard of living, respondents produced over 6,300 words of testimony. The statements in Table 17 are illustrative of respondents' observations on how Furlough affected their standard of living.

How Furlough affected respondents' standard of living (respondents' testimony is reproduced verbatim)	Rank	Airline offering	Management role
Unable to pay my mortgage. Was forced to rent out my flat and move in with parents. Why did it take a pandemic to put in place a Furlough system which other comparable economies in Europe have always had anyway?	Captain	Freight	No
We have used up all of our savings over the pandemic, and at the age of [over 50] I'm now trying to put some savings back into the bank with a reduced salary and an employer who is looking to keep my pay and conditions to their liking. I did a further qualification as an electrician, just in case there was to be no BA after this. I also worked as a handyman to help pay our bills during the Pandemic.	Captain	Full- service	No
Defaulted on flight training loans. Close to bankruptcy. Entered an Individual Voluntary Agreement (IVA) for a minimum of 5 years to prevent bankruptcy. Will be unable to access any credit for the duration of the IVA, and once complete, will continue to have impact on creditrating. Unable to visit my son due to costs. Standard of living plummeted. Moved into shared housing. Took two other jobs (driving jobs). Sold anything that I no longer needed: furniture; push bike; watch; sunglasses; clothes; tools the list goes on. All of this would not have been the case if [my airline] had not only paid me 50% whilst operating 100% for the first 4 months, and then harsh pay cuts with variable Furlough. They have a total lack of moral and ethical responsibility.	First Officer	Low-cost	No
Stopped ALL discretionary expenditure (still ongoing, as not planned to return to work until next month). No treats for kids. Tried to restrict mileage on the car, avoiding unnecessary journeys. No holidays. No treats for the kids. Much simpler birthdays/Christmases. No trips out for kids. Have not eaten out for two years. Changed supermarket. Cooked much simpler, cheaper meals (also less healthy). Turned off house heating and just heated one room. Sold some furniture and recreational items we used less.	Captain	Low-cost	No
I sold my motorbike, my car. Left the family house. [S]top[ped] paying my loans to be able to buy food and pay the house services [electricity, gas, etc.]. I	First Officer	Low-cost	No

Captain	Full-	No
	service	
First	Low-cost	No
Officer		
Captain	Charter	No
Captain	Full-	No
	service	
Captain	Charter	No
	Captain	First Officer Low-cost Captain Charter Captain Full-service

Table 17 How Furlough affected respondents' standard of living

The big picture

In any crisis, it is often the poorest who suffer most. The COVID-19 pandemic was no exception. In the UK, those at the bottom of the economic pyramid have experienced the highest infection rates, in part because they could not afford to self-isolate: 'A study by Sheffield council shows people in low-paid jobs, with insecure contracts, who couldn't afford to isolate have been hardest hit by the disease in the city' (Cohen and Morris 2021). Sheffield council's director of public health commented: 'The impact [of COVID-19] is really on the working poor Transmission in that group

of people is much higher' (Fell cited in Cohen and Morris 2021). A Sheffield food bank worker observed: 'People here work in factories, are care workers, bus drivers and taxi drivers So they're on the front line having an interaction If you're in another area and you're more affluent and you've got a different career path, you're going to remove yourself from that [risk of COVID-19]' (Meleady cited in Cohen and Morris 2021).

Overseas, the pandemic has undone up to four years-worth of work dedicated to tackling extreme poverty: '[A]lthough COVID-19 has had far-reaching effects across the globe, in countries where a significant portion of the population lives in poverty, the impact is far deeper and will be longer-lasting. As a result of COVID-19, 97 million more people are estimated to now be living on less than \$1.90 [£1.54] a day, with more than half residing in Sub-Saharan Africa In pockets all over the world, COVID-19 has exacerbated already dire situations where food scarcity, conflict, inequality and inadequate access to basic resources of education and healthcare were already prevalent' (World Relief 2022: 4-5).

Focusing on aviation

Doubtless some of those who read this report – journalists and politicians indifferent to aviation, for example – will claim that, of all British workers, pilots were (and, perhaps, remain) in the best position to survive the financial depredations of a pandemic. One can imagine the refrains:

'Why study pilots' experiences? Surely well-paid, middle-class professionals were in the best position financially to survive the worst the pandemic could produce'

'The chattering classes are at it again. Don't they know how well-off they are compared to the majority of Britons?'

'Stop bellyaching. You have got it good. Get back to work' (the tabloid version, perhaps).

To pass judgments such as these is to misunderstand the direction of travel of pilots' terms and conditions and the debt burden imposed by the industry on aspiring pilots (Topham 2020; Hashmi 2021; Durbin, Warren and Munns 2022). The race to the bottom of the compensation ladder continues apace. Indeed, pilots' testimony (above) suggests the pandemic has accelerated it. Regarding the industry's focus on costs, Lawton (2002: 3) observes: 'Market deregulation and industry globalisation have increased the competitive pressures on companies, reducing the margin for error, and rendering the "cult of cost reduction" indispensable For airline companies, successful and constant cost-control is essential, and cannot be neglected, even temporarily The margin of profit for most airline companies is minimal The obvious way to safeguard a company against ... acute market vulnerability is to decrease operational expenses, and increase employee and aircraft productivity'. Hikes in the cost of fuel, driven partly by the Russia-Ukraine War (British Broadcasting Corporation 2022), will incentivise cost-cutting. The race to the bottom can only accelerate in the coming months and years.

Class matters

Class is a social construct, a creation, a manufactured system of classification. Class can be measured in different ways. That is, against different criteria (Taylor *et al.* 1995). These criteria include:

- earned income
- disposable income
- investment income
- material assets

- indebtedness
- education
- social provenance
- manners
- accent
- dress code
- vocationalism
- the cerebral demands of one's job.

If measured against the cerebral demands of one's job, a clerical worker would be considered to belong to a higher class than a bricklayer. If measured against earned income, a bricklayer would be considered to belong to a higher class than a clerical worker (because in the UK, the high demand for bricklayers means they command good pay).

The question of whether a particular type of employment is considered working-class, lower middle-class, middle-class, upper-middle class or upper-class is therefore a matter of how class itself is defined. Defined in terms of its cerebral demands, flying would be considered a middle or upper-middle class occupation. However, defined in terms of a new-start First Officer's earned income, flying would be considered a lower middle-class, or working-class occupation.

Compensation data from the USA demonstrates that manual workers (for example, car mechanics and masonry workers) can earn more than new-start First Officers. Table 18 provides compensation data for First Officers at a selection of US regional carriers.

Regional airline	Year 1	Year 6	Year 12
Air Wisconsin	\$37,000	\$50,000	\$57,000
Endeavour Air	\$52,000	\$68,000	\$74,000
Horizon Air	\$40,000	\$50,000	\$52,000
Mesa Airlines	\$36,000	\$41,000	\$49,000
Piedmont Airlines	\$50,000	\$56,000	\$56,000
PSA Airlines	\$50,000	\$56,000	\$56,000
Republic Airways	\$46,000	\$56,000	\$63,000

Table 18 Compensation data for First Officers at a selection of US regional airlines (L3Harris Flight Academy 2021)

In the same year, 2021, the median pay for a roofer in the US was *circa* \$47,000 per annum, that for a car mechanic *circa* \$47,000 per annum, that for a masonry worker *circa* \$48,000 per annum, that for a steel erector *circa* \$57,000 per annum and that for a railroad worker *circa* \$64,000 per annum (US Bureau of Labour Statistics 2022).

In the UK in 2020, a new-start First Officer could expect to earn between £24,000 (at a small airline) and £28,000 (at a large airline). Before securing her/his first job, that same First Officer would have accrued a significant training debt of anything between £80,000 to £100,000 (Topham 2020; Hashmi 2021). Durbin, Warren and Munns (2022: 17) observe: 'The majority of pilots are expected to fund their own training in the commercial environment, and this situation is unlikely to change in the short term During the pandemic, from a poll of 500 pilots, 209 pilots were in debt for a total of £12 million (or Euro equivalent) alone for pilot training'.

On average, the salary for an experienced First Officer in the UK is *circa* £49,000 and that for a Captain *circa* £104,000 (L3Harris Airline Academy 2020).

In the UK in 2022, the median pay for a car mechanic was *circa* £22,000 per annum, that for a bus driver *circa* £25,000 per annum, that for a roofer *circa* £26,000 per annum, that for a steel erector *circa* £26,000 per annum, that for a bricklayer *circa* £29,000 per annum, that for a heavy goods vehicle (HGV) driver *circa* £29,000 per annum and that for a railway worker (Railway Brake, Signal and Switch Operator) *circa* £43,000 per annum (Payscale.com 2022).

Thus, were class to be defined econometrically, it would be possible to define new-start First Officers as working class and bricklayers or steel erectors or HGV drivers or railway workers as lower-middle or middle-class. The class ascribed to us (it is human nature to categorise or pigeonhole people) depends on which measure (metric) is used. Different metrics produce different outcomes.

16 Observations. If you would like to raise an issue not covered in the questionnaire, please make your observations here.

Several themes emerged strongly from testimony provided in response to this question. Pilots' testimony is reproduced verbatim, along with basic background information. For example, 'Captain, low-cost airline'. This section concludes with some observations on the testimony (Author's observations).

a) Mental health

'Mental well-being is a factor that almost nobody has taken into account when back to the line. It impacts safety, as performance is well below what it used to be. Most of us are still suffering the consequences and the stress to fix the problems that arise with what happened during the pandemic, and no plan has been made so far to cope with it. A phone call is not enough. Proper help and support should be available [First Officer, low-cost airline]'

'The disregard for pilot mental well-being by airlines and the CAA was unforgivable. Thank you for raising these issues [Captain, full-service airline]'

'My remaining major issue, as well as the ones outlined above, is the one of my lovely wife's mental health. She now views our wonderful home as a prison cell and spends as much time as possible, every single day, out of our home, due to [an] all-consuming depression caused by the pandemic [Captain, full-service airline]'

'More attention needs to be put on fatiguing rosters and mental health. Airlines have taken advantage of people during the pandemic and terms and conditions have been slashed. Pilots are desperate and more pressure is being put on crews to do more. There is also a drive by some CEOs to pretend to care about wellbeing, but [they] are actually doing the complete opposite [First Officer, low-cost airline]'

'I genuinely believe it has been a national trauma that we have all dealt with in our own ways I think it has been hugely damaging to the majority of people, and the majority of people do not have the self-knowledge/psychological know-how and resource to pull themselves up. It has screwed [a slang expression that, in this context, is suggestive of psychosis] plenty of people up for a while. Some for ever [Captain, low-cost airline]'

'You might want to ask specifically about mental health. I know a number of individuals who were affected by lockdown [Captain, charter airline]'

'Please, please, PLEASE raise awareness of how [my airline] has been treating us. I work in a confidential CHIRP reporting role and I have reports of pilots with officially-diagnosed depression,

some of whom are on medication and are still flying because they cannot afford not to and are scared to report other problems to [the airline] [Captain, low-cost airline]'

'After twenty years of flying, to have 14 months off was a revelation. I found my body recovered from the shift-working and I felt fitter and healthier. My mental health and well-being improved also. One fascinating phenomena I noticed is that over the year my brain and thought-patterns grew in a different direction. Free from the regime of a roster determining my day-to-day activities, and constant time-keeping, I read a lot and got a different perspective. Not constantly rushing about at 500 mph trying to fit things in, along with the destructive thinking of strict standard procedures, rules and compliance, to a more relaxed, free, creative and artistic way of thinking. It made me realise how limited the aviation industry is, and how inward-looking it can be. I am now thinking I have wasted a lot of opportunities over the past twenty years doing a very myopic and scripted job, and I have more to offer ... the pandemic has woken me from the trance of aviation and I am now looking at other opportunities [Captain, low-cost airline]'

b) Terms and conditions

'It was the worst period of my life. Financially I was (and still am) barely scraping by. Company and bank do not seem interested in helping me. I lost my mum suddenly, which destroyed me, as it was unexpected. Too soon and sudden. It was truly an awful time [First Officer, low-cost airline]'

'Although I was paid 70-80% salary throughout, the real effect was more like a 50% pay cut due to the loss of flight/duty pay. This was another reason why the unfair distribution of flying amongst my colleagues was a fairly big deal [Captain, charter airline]'

'BALPA should focus on hitting [my airline] the hardest in terms of pay restoration. [My airline has] saved billions by not topping-up pay in the UK, yet they continue to "pan handle" and plead poverty. We have been the worst-treated staff in the UK of any airline [First Officer, low-cost airline]'

'It is not all about Furlough. [My airline] forced us to take 4 weeks of unpaid leave at the start of the pandemic, then a further 2 weeks. We have been on pay-cuts ranging from around 40% to currently 8%. Inflation is skyrocketing, and the combination is really hitting us hard [First Officer, full-service airline]'

'Worth noting we were on flexi-Furlough, which actually worked pretty well. Our union had kindly signed away multiple things before we got put on Furlough, so my take-home pay had dropped to about £1200 for about 3 months in the summer of 2020, which was painful [First Officer, full-service airline]'

'Pay and contracts. Companies are recouping their losses at our expense. Especially with regards to FOs. General feeling from myself as an employee is that I feel like a servant rather than an employee, based on a feeling of "willing to abuse or replace" [First Officer, low-cost airline]'

'During the pandemic it seems that the rocky relationship between company management and staff was exposed to a greater degree when there was pressure on. I believe the pandemic was an excuse for management to take a slash-and-burn approach to terms and conditions — cuts that they have always had their eye on, using the pandemic as a convenient excuse. I think much lip service has been paid to supporting staff, with companies using both paid and volunteer wellbeing organisations, while not much attention has been paid to the fundamentals of retaining a loyal staff body, i.e., a good level of decent treatment, transparent communication and concrete commitment to improvements in the future [Captain, low-cost airline]'

'Our company is now in the position where it still won't provide its FOs with 100% contracts. Preferring to force us to sustain 75% seasonal contracts whilst it hires cadets on 100% contracts. This has been enhanced by the pandemic and the subsequent recovery. I have lost two full months of pay, sustained over a year of pay on a 50% contract, and now [I am] back to 75% seasonal. My sacrifices have been massive. I am still working for a second employer to recoup some of the financial losses suffered over the period. I am eternally grateful to my colleagues for coming together to save jobs, my own included, and this has been a demonstration of a determined union and work force. I am lucky to have a job, which makes complaining on this scale difficult, but the senior management have ring-fenced several million pounds-worth of bonuses this year, and we as a workforce are far worse off in the midst of a cost of living crisis [First Officer, low-cost airline]'

c) Treatment of commercial aviation by third parties

'Our industry was, largely speaking, left to die, unlike other countries that supported their aviation sectors, aware that the pandemic would end. Typical short-sighted British mismanagement. Now we are playing catch-up with massively indebted businesses – a completely fair playing field [First Officer, full-service airline]'

'Thank you for taking the time to ask for comments. The .Gov [one assumes this is a reference to the GOV.UK web-site that presents itself as "The best place to find government services and information: Simpler, clearer, faster"] policy from the start was wrong, and, as we have seen, self-interested, corrupt and pointless [Captain, full-service airline]'

'The only observation I can make is I really look forward to getting out of the industry. It is screwed [a slang expression that, in this context, denotes decline or demise]. The biggest threat it faces is not viruses, bombs, volcanoes, financial crisis, climate change, etc., etc., it is governments and their willingness to throw people under the bus to fit in with their agenda – whatever it may be on that day or week [Captain, charter airline]'

'We did everything to keep our jobs and allow our airline to survive. We have been punished, though, by being forced onto terrible contracts, which will be with us for the rest of our working lives. The government response was completely unacceptable for our industry. I was flying supplies for the NHS, and food, yet we were treated as if our contribution was worthless compared to that of pubs and football! [Captain, full-service airline]'

'I feel our industry was abandoned by all except the unions. With every decision that was taken at government level, and every support package that was announced for other industries, we were always just left to cope alone [Captain, low-cost airline]'

'The industry took this as an opportunity for radical transformation and those that survived used it as an opportunity for a land-grab. Government and the ruling party simply did not care about the industry. There is much hidden anger that remains within the industry and there will be industrial turmoil moving forward as a result. For my company, the idea that "we were all in this together" proved to be a lie. I am tired of being lied to. My relationship with my employer is now entirely transactional [Captain, full-service airline]'

d) Safety

'The key safety issue for long haul aviation is Flight Time Limitations – we now do routes with three pilots that we used to do with four pilots. Four pilots allows for six hours rest during the cruise and results in much safer levels of alertness during landing phase. With three pilots on long sectors we often find ourselves extremely tired and having micro-naps in the hold at LHR [Heathrow Airport].

Most of us then drive home for two hours as well. It is simply not safe. Full stop [First Officer, full-service airline]'

'The biggest change for me has been my base closure requiring me to re-base. Due to my family situation – wife in a specialist job, children in school doing GCSE/A levels – I have become a commuter (280 miles). Thus, I have chosen to remain on the part-time contract (50%) I went onto as part of the BALPA redundancy-avoidance plan. This allows me to have a sensible balance of time at work and time at home, but comes at a price of reduced salary – I could not commute and be full-time operating out of LGW [Gatwick Airport]. The option to transfer closer to home is available, but the nearest base to my home is still 110 miles. I am waiting for the dust to settle this year and may well consider a transfer, but would want to remain on some sort of part-time contract [Captain, low-cost airline]'

'I know it seems odd my personal morale before the pandemic was low, but is now higher afterwards. It is in opposition to how I feel about the job and the company. Before [the] pandemic, I felt better about [the] job and company than I do now. This is because the time off has made me feel physically and mentally better, and has really boosted my personal morale. This will of course reduce over time, I guess, as I become tired and long-term fatigued. However, it has also changed the way I think and approach the job. I sacrificed so much to complete my duties to serve the customer and my employer. Often at the detriment of my personal welfare and beyond my remuneration. Now I shall be approaching the job with the crew's and my welfare at the forefront. If I am just slightly fatigued or ill, I will more readily call in sick. I will not be going above and beyond for the company now. Doing so only benefits the company. I am not rewarded for being any kind of hero, and they reap all the rewards [Captain, low-cost airline]'

e) A loss of perspective and sense of proportion

'I know more people who have died from suicide and adverse vaccine reaction during pandemic than I know got seriously ill from COVID. My wife worked at the hospital on COVID wards. The hysterical societal overreaction to an illness that is dangerous to the obese, clinically vulnerable and elderly has been detrimental to everything positive in my life. I hope that the lessons learned include less reliance on modelling and more on actual evidence and accepting that targeted protection is better than large-scale lock down of society. My trust in government [and] their scientific advisers and modellers is now so low I have grave concerns for our future and the industry I work in [First Officer, full-service airline]'

Author's observations

Respondents' comments in respect of the final question of the on-line questionnaire (Question 16) reflect several of the major themes found in the main body of the report: Physical and mental health; terms and conditions; treatment of the aviation industry; flight safety; a lack of reflection and circumspection in official responses to the COVID-19 pandemic.

a) Mental health

The International Civil Aviation Organisation (2012: 2.2.15) observes: '[T]here is evidence that several fatal aviation accidents have been caused by psychiatric disorders or inappropriate use of psychoactive substances'.

Pilots are assumed to be physiologically and psychologically fit: 'Pilots are generally regarded as being psychologically resilient and healthier than the general population due to initial health assessment of specialised aeromedical examiners, which excludes individuals with severe risk factors

for suicidal behaviour, such as repeated suicide attempts or current major depression. Mandatory health assessments are regularly repeated, as requested in aviation authorities' guidance on aviation medical examiners' (Vuorio *et al.* 2018: 2525).

Respondents' concerns about mental health (see comments above) should be considered against recent disasters and flight-crew mental health initiatives, including:

- the loss, in October 1999, of EgyptAir Flight 990 through, according to the US National Transportation Safety Board, the suicide of its Relief First Officer: 'The National Transportation Safety Board determines that the probable cause of the EgyptAir flight 990 accident is the airplane's departure from normal cruise flight and subsequent impact with the Atlantic Ocean as a result of the relief first officer's flight control inputs. The reason for the relief first officer's actions was not determined' (National Transportation Safety Board 2002: 67). (The Egyptian authorities dispute the NTSB's finding of pilot suicide)
- The loss, in March 2014, of Malaysia Airlines Flight MH370. One of the theories advanced for the loss of Flight MH370 concerns the state of mind of its flight-crew (Zhou 2019). In their final report into the loss, Malaysian investigators observed: 'Based on the available evidence, the analysis of factors considered relevant to the disappearance of MH370 include ... Flight Crew Profile' (Malaysian ICAO Annex 13 Safety Investigation Team for MH370 2018: xvi). Malaysian investigators noted that: 'Issues were ... identified in the Airline Operations [including] Flight crew medical and training records Reporting, and following-up of crew mental health (Malaysian ICAO Annex 13 Safety Investigation Team for MH370 2018: xvii). Investigators noted for the record: 'The Team specifically investigated the possibility of mental/stress-related ailments in the PIC [Pilot in Control] and concluded that there is no medical record or other documentation of the PIC having received psychiatric treatment Similarly, there was no documented unusual health-related issues involving the FO [First Officer] (Malaysian ICAO Annex 13 Safety Investigation Team for MH370 2018: 361)'. While there may not have been any formal record of 'mental/stress-related ailments' in either the Captain or First Officer, it is possible that one, or both were stressed. Stress symptoms can be subtle and difficult to identify during a brief medical review. If noticed by colleagues, they may be dismissed as a temporary condition. To a degree they can be concealed by the subject (mental health remains something of a taboo subject). Finally, everyone has a mental-health tipping point – a point in time when one is no longer able to comfortably absorb stress. An individual's ability or capacity to absorb stress is influenced by her/his physiological and psychological characteristics. Put simply, some people can handle more stress than others (Campbell and Bagshaw 1999). This reality has implications for politicians (in their lawmaking role), regulators, airlines, medical examiners, trade unions and employees
- the loss, in March 2015, of Germanwings Flight 4U9525 through the suicide of its First Officer, Andreas Lubitz (Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile, 2015; Bennett 2016)
- the loss, in March 2022, of China Eastern Flight MU5735. In May 2022, following a preliminary analysis of the aircraft's severely damaged flight data recorder (FDR) and cockpit voice recorder (CVR) (known to the media and public as 'black boxes') by the US National Transportation Safety Board, there was speculation that the loss, which saw a Boeing 737-800 plunge earthwards from 29,000 feet, was due either to the suicide of one of its pilots or the suicide of an intruder (or intruders) onto the flight-deck (Gan 2022). The loss could also

- have been caused by a failed hijack attempt. The Chinese authorities warned interested parties not to speculate about the cause(s) of the accident
- the issuing by the European Aviation Safety Agency in 2018 of new mental-health protocols, including a requirement that European airlines 'perform a psychological assessment of their pilots before the start of employment' (European Aviation Safety Agency 2018)
- the publication by the UK Flight Safety Committee in 2018 of an article titled 'Pilot mental health – the lived experience' (Cullen, Cahill and Gaynor 2018). The article's authors noted how poor mental-health reduced pilots' capacity to handle in-flight upsets and other challenges
- the issuing, during the COVID-19 pandemic, of advice to operators on the matter of their responsibilities for flight-crew health, including mental-health. For example, the issuing by the UK Civil Aviation Authority (2020) in July 2020 of Safety Notice SN–2020/014: Pandemic and Return to Re-defined 'Normal' Flight Operations.

Work done before the 2020-2021 COVID-19 pandemic suggested that the civil air transport industry was struggling to safeguard the physical and mental health of its pilots: 'In 2012, Dublin City University conducted a study of over 700 pilots flying for Irish-registered airlines. The authors reported that over a 12-month period, 54% of respondents reported suffering feelings of being depressed or anxious. Of this same sample of pilots, 78% reported suffering feelings of being burnt-out or exhausted. In 2016, Harvard University studied over 1,800 pilots, and of these, over 12% displayed symptoms that met the threshold for clinical depression, or a major Depressive Disorder, within the previous two weeks. *Over 4% reported having suicidal thoughts within the same period*. In 2016 ... the London School of Economics conducted an airline safety culture study. The authors of this European Commission-funded study reported that of over 7,200 participants, only 17% believed their company cared about their wellbeing, and 21% felt that fatigue was taken seriously within their organisation [my emphasis]' (Cullen, Cahill and Gaynor 2018: 10).

Perhaps aware of this research, in 2020 the CAA issued *Safety Notice SN–2020/014* which urged operators to make adequate provision for meeting the physical and mental-health needs of its employees, both during the pandemic, and during the post-pandemic work-up period: 'CAT [civil air transport] operators are strongly encouraged to ... optimise their crews' physical and mental fitness during the Covid-19 crisis, and in the aftermath, and so maintain and improve a high level of aviation safety' (Civil Aviation Authority 2020).

Despite such exhortations, respondents' testimony suggests that some operators are not providing the level of mental-health support deemed necessary by the authorities and mental-health professionals. This should be of concern to the CAA, airlines, passenger-advocacy groups and lawmakers. A First Officer claimed: 'Mental well-being is a factor that almost nobody has taken into account when back to the line. It impacts safety, as performance is well below what it used to be. Most of us are still suffering the consequences and the stress to fix the problems that arise with what happened during the pandemic, and *no plan has been made so far to cope with it*. A phone call is not enough. Proper help and support should be available [my emphasis]'. Such testimony suggests there is a mismatch between regulator and employer rhetoric and the lived reality of life on the line.

b) Terms and conditions

In 2022, the Global Head of Transportation and Commercial Finance at Kroll Bond Rating Agency observed: 'In some ways, COVID-19 has helped airlines to become much more focused on cost-cutting, and almost all of them have reduced their fleets and costs, especially labour and capex [capital expenditure] costs' (Riggi cited in Tozer-Pennington 2022: 10).

Respondents' comments about deteriorating terms and conditions support Lawton's (2002) hypothesis that in today's deregulated air transport market, airlines cannot afford to do anything other than cut costs. Competitiveness is one of the keys to survival. Respondents' claims that airlines used the pandemic as a vehicle and rationale for aggressive cost-cutting merit further research. If it is found that airlines did, indeed, exploit a health crisis (that, in the UK, killed over 175,000 people) to aggressively cut costs and transform terms and conditions, this would seem at best opportunistic, at worst, immoral.

Respondents' testimony attests to aggressive cost-cutting and employer aloofness. A First Officer remarked: 'It was the worst period of my life. Financially I was (and still am) barely scraping by. Company and bank do not seem interested in helping me'. In their 1999 book *Human Performance and Limitations in Aviation (Second Edition)*, human-factors experts Ron Campbell and Michael Bagshaw framed financial worries as 'life stressors' capable of affecting performance: '[Life stressors] are associated with events in everyday life. They ... may include such factors as *financial and domestic pressures* Family arguments, death of a close relative, *inability to pay bills* ... all contribute to life stress These can add significantly to the operational stressors which are part of flying activities [my emphasis]' (Campbell and Bagshaw 1999: 132).

c) Aviation's treatment by third parties

In the 2022 publication *The Aviation Industry Leaders Report 2022: Recovery through Resilience*, Tozer-Pennington observes: '[T]he overall impact [of the COVID-19 pandemic] on airlines has been curtailed somewhat by the *overwhelming support of national governments*, banks, capital markets and private investors, and most importantly by the leasing sector [my emphasis]' (Tozer-Pennington 2022: 10). Reading respondents' testimony it is hard to believe that Her Majesty's Government provided 'overwhelming support' to the United Kingdom's highly productive and economically valuable aviation sector. Indeed, according to some respondents, the period 2020-2021 saw the exact opposite. As one First Officer put it: 'The English government in particular was pathetic. Zero help. Consistently ignoring the industry. Creating systems (Traffic Light, etc.) that [were] completely chaotic and confusing Using the PCR Requirement to make money for Tory donors. If it wasn't enough that they made travel near-impossible, they also decided to scam those who required travel [H]aving Boris Johnson or any of his half-witted snakes at the helm during a pandemic, and now war in Europe, was never going to breed anything positive or useful ... you get what you vote for' (First Officer, low-cost carrier).

Question 12.1 asked respondents to assess, using a Likert Scale, the overall response of UK national governments to the COVID-19 pandemic. The results were presented in Figure 18.

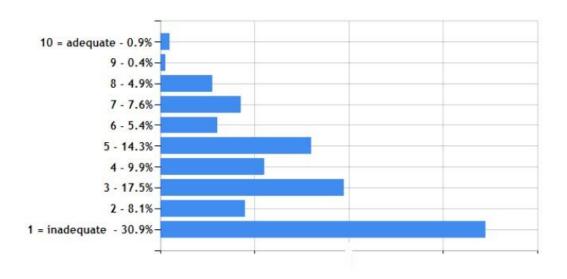


Figure 18 Adequacy of UK national governments' overall response to the pandemic

The data showed a Median value of 3 and a Mode value of 1: hardly a glowing endorsement of the performance of the country's four national assemblies.

Question 13.1 asked respondents to assess, using a Likert Scale, the success with which the Westminster Government safeguarded the interests of commercial aviation during the pandemic. The results were presented in Figure 20.

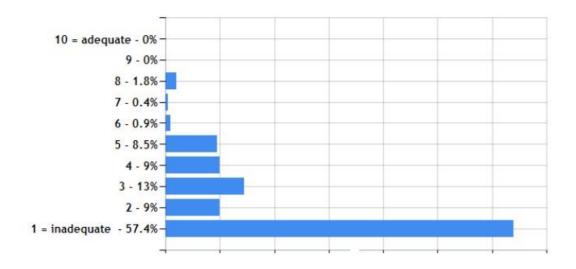


Figure 20 Adequacy of the Westminster Government's safeguarding of the interests of commercial aviation during the pandemic

The data showed a Median value of 1 and a Mode value of 1. Only one reading is possible: Respondents considered the Westminster Government's performance inadequate.

Those who might claim respondents' testimony to be skewed by anti-government sentiment or, indeed, partisanship, would do well to consider the following statement abstracted from the 20 April, 2022, House of Commons Transport Committee report *UK aviation: reform for take-off:* 'The Government struggled to balance the competing priorities of protecting public health and of facilitating international travel during the coronavirus pandemic. It restricted international travel to manage the virus's spread, but the arbitrary nature of those restrictions left travellers struggling to

secure refunds, to access affordable testing and to navigate the confusing "traffic light" system. The restrictions on international travel imposed severe economic costs on the aviation industry. We welcome the Government's decision to remove all coronavirus-related restrictions on international travel. We also welcome its statement that in future such restrictions will only be implemented in extreme circumstances. The Government must learn from the coronavirus pandemic by improving its resilience-planning for aviation to ensure that both travellers and the aviation industry are supported by a predictable, transparent system in future public health crises [my emphasis]' (Transport Committee 2022: 3).

In urging the Government to 'improve resilience-planning for aviation' (Transport Committee 2022: 3) the members of the Transport Committee are assuming:

- that those in power are not antithetical to commercial aviation
- that those in power are interested in bringing more success to an already successful industry
- that those in power have the will and wherewithal to take an interest.

Time will tell if the Transport Committee's assumptions are correct.

d) Safety

Respondents' testimony points to several problematic developments, including:

- longer commutes to work
- employers pushing the FTL envelope
- disenchantment with employers
- · disenchantment with the job of flying
- a feeling that the industry is either under-appreciated, or not appreciated by those in power.

The questionnaire used Likert scales (calibrated one=low ten=high) to probe respondents' appetite for the job, job satisfaction and personal morale before and after the pandemic (Table 19).

	Pandemic			
	Bef	ore	Af	ter
Metric	Med Mode		Med	Mode
Appetite for the job	8 8		6	10
Job satisfaction	8	8	6	7
Personal morale	8	8	5	1

Table 19 Respondents' appetite for the job, job satisfaction and personal morale

Indices such as a reduced appetite for the job, lower job satisfaction and lower morale should give politicians, employers, regulators and, indeed, passengers, cause for concern. Research data suggests a link between job anxiety and low personal morale and the efficiency and safety with which an employee performs work-related tasks (Srivastava and Krishna 1980; Beyea 2004; Reason 2005; Day, Minichiello and Madison 2006; Weakliem and Frenkel 2006; Bowles and Cooper 2009; Rimmer 2016). Reason (2005: 59) notes a link between '… undermanning, fatigue, technical problems, high workload, poor communication, conflicting goals, inexperience, *low morale*, teamwork deficiencies, etc. [my emphasis]' and 'errors and violations'.

e) A loss of perspective and sense of proportion

During the pandemic, it was difficult, indeed, dangerous, to advance discourses that contradicted the government's official line – that lock-downs were the best way of slowing the spread of the virus. Lock-downs were presented to a fearful public as the best way of minimising death and

suffering. Unfortunately, the lock-downs caused a dramatic decline in economic activity and a dramatic increase in treatment backlogs. They adversely affected physical health and mental health (see comments, above). They provoked abuse and violence within the home. March 2019 to March 2020 saw '... a 7% growth in police-recorded domestic abuse crimes' (Havard 2021). Between April 2020 and February 2021, Refuge, the UK's largest provider of advice and help to potential and actual victims of domestic abuse, recorded an average 61% increase in calls and contacts. The organisation created over 11,000 Safety Plans (Refuge 2022). Lockdowns tore at the social fabric.

A few courageous commentators advanced an alternative vision to an uncomprehending political class and mass media – that the decline in the national income caused by lock-downs would, by reducing investment in healthcare, social care, housing, education, policing and other social amenities, cause more death and suffering than the COVID-19 virus or, indeed, any virus ever would. It could be argued that what we (that is, the British public) saw at the highest levels of government during 2020 and 2021 was groupthink – a limpet-like attachment to a single solution, a reluctance to consider alternatives and a tendency to label dissidents heretics. (See Janis (1972) for a definition of groupthink). Any activity can find itself colonised by fundamentalism, including that of public health policymaking.

4.3 Interviews

Two semi-structured interviews were conducted via an internet communications portal. The interviewees were sent the questions before the interview. The interviews were recorded. Selected statements are reproduced verbatim below.

4.3.1 Interview 1

The interviewee, a First Officer at a low-cost airline, made the following observations:

1 Please discuss your experiences of lockdown, both bad and good experiences

'During lockdown I managed to lose 15-20 kilos'.

'I was running all the time and looking after myself physically 90% of [Lockdown] was really positive for me. I decided to take on running challenges and fitness challenges and got myself back into a really good state of fitness, which is something I have lost through flying and the inability to maintain proper meal times. For me it was actually quite positive'.

Interviewer: Do you think you will be able to maintain those better health habits now you are back in work?

'I try. But it is a lot harder to do so'.

2 Please discuss the economic impacts of Furlough on you and your family

'I moved debts around'.

'Most people have learned to live with less income, and have found a better quality of life. Now the companies are trying to entice you back by saying: "You could earn more if you work harder". That is not necessarily the driving factor any more. People have seen a different way of life and have appreciated what is outside'.

'We were offered job-saving contracts for a period of four years, which is what we are living through now. I think it was almost taking advantage of the situation. But because everyone was afraid of redundancy, the contracts were accepted. Initially the communication was very negative, "Unprecedented losses, bla, bla, part-time rosters, no-time rosters, forced unpaid leave", that kind of stuff. Once we accepted it, it became quite positive. They started saying: "Look, we know it is hard, but there will be an end to this, and we want to position ourselves at the end of this to be very attacking and very driven, so we need to keep everybody flying". So it was mixed-messages. The fear originally was to accept the contracts. Once the contracts were accepted and the deals were done, it became a lot more positive'.

4 Please reflect upon the behaviour of third parties (for example, Her Majesty's Government) towards the aviation industry during the pandemic (2020-2021)

'I have not been impressed with the way the aviation sector has been handled I don't think the economic plan of chucking everybody on £2,500 worked, because all that did was to stop my spending'.

'The changing of lock-down rules at the last minute meant everybody lost faith in the airlines'.

Interviewer: What do you think of Prime Minister Boris Johnson? What do you think he thinks of aviation?

'I think he is oblivious to it I don't think he paid any attention to it'.

Interviewer: Do you think the government's attitude towards aviation will change?

'I think the sector has been handled appallingly'.

Interviewer: How would you describe the level of morale amongst your colleagues?

'I have never known a happy pilot, let us put it that way. People make statements like: "Morale is at an all-time low", but it is things you hear all the time. I think a lot of people live outside their means. I think those people have fallen through the cracks'.

'People have re-evaluated what is important to them in their life, and it is not necessarily going to work for sixty-plus hours a week to have four days off. With us, people are starting to leave quite quickly. Or wanting to work part-time, as working full-time does not give them the work-life balance that they require. The company is quite inflexible. They would rather have no employee than a part-time employee ... which seems very short-sighted'.

Interviewer: If you had children, would you encourage them to work in aviation?

'This is a very difficult question For me, if you can maintain a quality of life, and you can accept the pitfalls and the negatives, I think the positives do balance it out. I have flown with a lot of people who are brand-new into the industry, they have only ever worked for [my low-cost carrier] and [they come out with]: "It is the worst company in the world" and: "It is awful". But every single company you go to it will be the same thing. As long as you can go to work and leave work at work, and it does not start impacting your home life, that is OK. So far I am in a position where it does not impact my home life. Back to your original question. I would not necessarily drive them into aviation, but I would not steer them away from it. So, I would just sit down and give them the pros and cons. There are a lot of things I can afford to do that someone in a job that is not so well paid could not do. But then, they have opportunities to do things outside of work that I can't do. So it is a play-off'.

5 What preparations should the industry make for the next pandemic?

'This is one of the questions I have thought about a little bit ... you can prepare for everything, but at a cost ... I don't necessarily think that preparation would get us to a different position ... unless we are talking about more government control The one thing I am critical of is how the government let the media run riot and drive the public into this mad frenzy that we are all going to die tomorrow, without any kind of repercussion. I think better oversight of the media, without limiting it, would be very valuable'.

Interviewer: Do you think there is a sense in which the government over-reacted?

'100%. They said at the start of it there are going to be x-number of people who are going to die People's lives have been turned upside down based on the media spinning of those numbers and there is no repercussion for that'.

'There seems to be a carte-blanche ability to put people through misery'.

'It has made me [develop] a distrust of the media'.

Interviewer: It has been claimed that during the pandemic the government handed over the running of the country to doctors. Would you agree with that?

'Doctors and scientists, yes. I think it was the worst-case doomsday scenarios that were placed in front of people'.

7 What preparations should the international community make for the next pandemic?

'Asian countries get on it very, very quickly. We could take quite a few things from the way they attack things'.

8 Any final observations on anything to do with the pandemic and its management by HMG, the airlines, the regulator, the unions, etc.?

'I think it has been wholly mismanaged by the government. If somebody was to manage a company like the government managed the country they would no longer be running it I think the scaremongering that took place is unforgiveable. Some people are still petrified to go outside. Three or four months ago I was in IKEA, outside in the car park, and I sneezed, and a lady turned round to me and said: "It is people like you who are spreading the virus". I just thought: "You are so brainwashed with everything". It is not a rational way of thinking'.

'People are always going to die I read about some people who have passed away during it, and they have lived the last six months of their life in fear, rather than living their life, and eventually dying from COVID. Would you have rather had six months of happiness, or would you rather be in fear for six months?'

4.3.2 Interview 2

The interviewee, a Senior First Officer, made the following observations:

1 Please discuss your experiences of lockdown, both bad and good experiences

The interviewee noted that, for him, Lockdown had some benefits, especially in regard to fitness and healthy eating. He noted that he had got himself fit during Lockdown through running and other forms of exercise and how he had cooked healthy meals for himself: 'I got a letter saying you are on £2,000 per month pay, which was roughly two-thirds of my monthly salary, stay at home and enjoy it. I will not lie to you. It was wonderful. Not sleeping in a hotel bed. I love cooking. Get up when you want. Go to bed when you want. I did miss the flying aspect ... my colleagues were brilliant, not just the Captains I flew with, but also the cabin-crew, the engineers, the Dispatchers, the day-to-day people were fantastic. I do miss them. I miss the comradeship. I miss the sense of achievement of getting a good day's work done. But I do not miss being on the road all the time. The other thing is that the rosters changed We would do an hour-long flight, switch the telephone off flight-mode during the turnaround, and there would be something on the rostering App saying: "You have got changes". I had days sometimes when my roster was changing by the hour. You could not make any plans. Knowing that I was single, I used to get a lot of this I was pushed from pillar to post for eleven and a half years. It was horrible and I do not miss that at all I have been working part-time as a flying instructor Certainly, the end of that peripatetic, constantly-changing, unplannable lifestyle was a very big bonus'.

Interviewer: So, for you, the Lockdowns were a positive. They actually changed your outlook and changed your career.

'They did. I still plan to go back to the airlines, but getting out of [my airline] was, for me, a good thing'.

Interviewer: Did you ever contemplate leaving aviation altogether?

'No. I know a lot of people have Aviation is all I want to do with myself. There is no question of my leaving aviation'.

2 Please discuss the economic impacts of Furlough on you and your family

The interviewee noted that although his income had fallen, so, too, had his outgoings. Living at home with his parents had helped minimise his outgoings: '[Furlough] did not affect me With lockdown it was not as if we were going out partying Given that I was not on the road all the time spending money on fuel, hire cars, so much a night on meals ... for me, Furlough had no impact at all'.

3 Please discuss any health impacts of lockdown

The interviewee noted that lockdown had had no adverse effects on his physical or mental health: 'Being able to eat [healthily] and being able to exercise more – go for long walks – my health was absolutely fine. I would say it improved. I had no mental-health issues at all I have been absolutely fine. If anything my health has improved'.

4 Please reflect upon the behaviour of third parties (for example, Her Majesty's Government) towards the aviation industry during the pandemic (2020-2021)

'The third party that does stand out is the press. The amount of doom-mongering there was is astounding I know they have got to sell their papers, but the old adage "never let the truth get in the way of a good story" is [true] There is no doubt the airlines have taken advantage to do what the unions would never allow them to do in normal times'.

Interviewer: How do you think the current government thinks about aviation?

'I don't perceive aviation as being massively high up in the government's list of priorities I don't get the impression that aviation is overwhelmingly at the heart of government'.

5 What preparations should the industry make for the next pandemic?

'Certainly accept the fact that there is going to be one Understand that the industry will take a hit. In an ideal world it would be great if the airlines had some sort of reserve for that'.

Interviewer: The mortality rate for COVID-19 is around 3%. Given that fact, do you think there was an element of overreaction to COVID-19?

'COVID-19 is nasty, and yes, it can kill in some cases, but people are dying of other things, with COVID-19, and yet we are being told they are perfectly healthy and died of COVID-19'.

6 What preparations should HMG make for the next pandemic?

'Accept the fact that another pandemic is inevitable. Understand that the measures taken to fight it will have an impact economically. Take the lessons learned from this pandemic. You don't want to be like the military – forever fighting the last war'.

7 What preparations should the international community make for the next pandemic?

'Communication between countries is crucial I don't think the UN is very much use. I would not turn to the UN for guidance or leadership. In a perfect world countries would be open about it [home-grown public health emergencies]'.

Interviewer: In terms of the UN, how do you think it should be reformed? Is there anything we could do to improve its performance?

'The UN appears to me to be a very risk-averse organisation If there is a risk-averse culture at the UN, then that needs to be eradicated. An investigation into the culture, and how the UN does things, would be useful'.

'I remember the Balkans War where we had the Srebrenica massacre where you had Dutch peacekeepers ready to defend the Muslim population. Someone at the UN said: "Let the Serbs in". Then you had the biggest massacre on European soil since World War Two. God knows what Ukraine is going to dish up. I thought: "Where is your spine, as an organisation?" Someone should have said to the Dutch peacekeepers: "If the Serbs come a step closer, drill [terminate] them". The only way to stand up to bullies is to hit them straight in the face. They just stood back and let it happen. I was stunned. My understanding of the UN is that is the sort of thing the UN is designed to stop. I thought: "What is the point of you being there?" Similarly, with the pandemic, I cannot remember when I last saw any sort of UN initiative, any intervention, any declaration. I am sure it has happened, it is just that I cannot remember when I last saw or heard of such a thing'.

8 Any final observations on anything to do with the pandemic and its management by HMG, the airlines, the regulator, the unions, etc.?

'I know the government has been criticised for its initially slow response to the pandemic. I would like to know what they knew when the pandemic first started'.

Interviewer: There is going to be a public inquiry into the handling of the pandemic. Do you hold out any hopes for that?

'I would hold out more hope if it was a cross-party committee'.

5 Appendices

5.1 Appendix 1: The author

Dr Simon Bennett directs the Civil Safety and Security Unit at the University of Leicester. He is interested in the organisational, social, economic and political origins of risk. For example, loss of organisational memory, mindlessness, groupthink, reductionism, satisficing, hollowing-out, graft and disingenuous management. He has published extensively on aviation safety issues and has spent over 1,500 hours on the jump-seats of a variety of rotary and fixed-wing aircraft, including the EC135, B737, B757, A300, A319, A320 and A321. His research takes in flight-deck human factors, socio-technical systems-thinking and functionalist cultural transformation tools such as crew resource management (CRM) and line operations safety audit (LOSA). He is an Associate Member of the Royal Aeronautical Society (RAeS) and a Member of the Air Safety Group of the Parliamentary Advisory Council for Transport Safety (PACTS). He has trained pilots in CRM and fatigue-risk management, has spent time in a B737 simulator and has taken safety and emergency procedures (SEP) courses on a variety of types, including the B747-800. Dr Bennett has worked with the Royal Air Force and UK National Police Air Service (NPAS) on human-factors issues (Figure 25). His latest book, *Safety in Aviation and Astronautics. A socio-technical approach*, was published by Routledge in 2022.



Figure 25 Dr Bennett spent 24 months working with the UK National Police Air Service on human factors issues



Figure 26 Dr Bennett does his human-factors research through non-participant observation. He is pictured on the flight-deck of a Boeing 737 over northern Europe

5.2 Appendix 2: The on-line questionnaire

Project title:

The Impacts of Flight Crew Furloughs

A request to respondents:

This questionnaire is being sent to all BALPA members. BALPA recognises that not all members were subject to Furlough or other temporary pay reductions, but we would still like to hear from you. If you were not subject to Furlough or other temporary pay reductions, then please ignore the questions relating to Furlough, specifically questions 2.1, 4.1, 15.1, 15.2, 15.3

1 Personal profile and lock-down experiences

- 1.1 Age
- 1.2 Number of years as a First Officer
- 1.3 Number of years as a Captain
- 1.4 Management role? [Y/N]
- 1.5 Training role? [Y/N]
- 1.5.1 If Yes, then choose from tick box options:
 - 1.5.1.1 TRI
 - 1.5.1.2 TRE
 - 1.5.1.3 Other
- 1.5.2 If Other, please describe the role here [narrative response]
- 1.6 Military flying experience? [Y/N]
 - 1.6.1 If Yes, number of years' military flying experience?
- 1.7 For which operator do you fly? [drop-down list]
 - 1.7.1 If Other, please name the operator here [narrative response]
- 1.8 Basing:
 - 1.8.1 UK
 - 1.8.2 Overseas
- 1.9 Experience of lockdown
 - 1.9.1 Do you live alone? [Y/N]
 - 1.9.2 If you were locked-down at any point during the pandemic, how did you find being locked-down? [Likert Scale 1=Intolerable 10=Tolerable]
 - 1.9.3 If you were locked-down at any time, please describe your experiences of lock-down, including the worst and best aspects, the duration of each lock-down and any coping-mechanisms you found beneficial [narrative response]

2 Furlough history

- 2.1 Furlough #1
 - 2.1.1 Start date [dd/mm/yy]
 - 2.1.2 End date [dd/mm/yy]

[repeat five times, Furlough #2, Furlough #3, etc.]

3 COVID-19 infection history

- 3.1 How many times have you tested positive?
- 3.2 Did any of these infections result in hospitalisation? [Y/N]
- 3.3 Total number of days in hospital for all bouts of COVID-19?
- 3.4 Long COVID diagnosed? [Y/N]

4 Subjective performance assessment post each Furlough

- 4.1 Subjective performance assessment post Furlough #1
 - 4.1.1 Describe any training received/checks made/additional professional support given during Furlough #1 [narrative response]
 - 4.1.2 Date of first duty after returning to work from Furlough #1 [dd/mm/yy]
 - 4.1.3 Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty [narrative response]
 - 4.1.4 First duty subjective performance assessment [Likert Scale 1=Unsatisfactory 10=Satisfactory]
 - 4.1.5 Describe any personal performance issues experienced during the first duty. Why do you think they arose? [narrative response]
 - 4.1.6 Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? [narrative response]

[repeat five times, Furlough #2, Furlough #3, etc.]

5 Personal appetite for the job

- 5.1 Appetite for the job before the pandemic? [Likert Scale 1=Low 10=High]
- 5.2 Appetite for the job post the pandemic? [Likert Scale 1=Low 10=High]

6 Personal job satisfaction

- 6.1 Job satisfaction before the pandemic? [Likert Scale 1=Low 10=High]
- 6.2 Job satisfaction post the pandemic? [Likert Scale 1=Low 10=High]

7 Personal morale

- 7.1 Morale before the pandemic? [Likert Scale 1=Low 10=High]
- 7.2 Morale post the pandemic? [Likert Scale 1=Low 10=High]

8 Assessment of your employer

- 8.1 What was your assessment of your employer before the pandemic? [Likert Scale 1=Negative 10=Positive]
- 8.2 What was your assessment of your employer post the pandemic? [Likert Scale 1=Negative 10=Positive]
- 8.3 With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? [Y/N]
 - 8.3.1 Please describe the things your employer could have done better [narrative response]

9 Assessment of the Civil Aviation Authority (CAA)

- 9.1 What was your assessment of the CAA before the pandemic? [Likert Scale 1=Negative 10=Positive]
- 9.2 What was your assessment of the CAA post the pandemic? [Likert Scale 1=Negative 10=Positive]
- 9.3 What could the CAA have done to better mitigate the impacts of the pandemic on employers and employees? [narrative response]

10 Assessment of the UK aviation industry in general

- 10.1 The response of the UK aviation industry to the pandemic was [Likert Scale 1=Inadequate 10=Adequate]
- 10.2 Observations on the UK aviation industry's response to the pandemic [narrative response]
- 11 Assessment of the collective response of United Kingdom aviation industry representative bodies to the pandemic (for example, industry trade unions, Airlines UK, The British Aviation Group, The Airport Operators Association, the UK Flight Safety Committee, the Royal Aeronautical Society)
- 11.1 United Kingdom aviation industry representative bodies' collective response to the pandemic was [Likert Scale 1=Inadequate 10=Adequate]
- 11.2 Observations on the collective response of United Kingdom aviation industry representative bodies to the pandemic. Please feel at liberty to comment on the performance of individual bodies [narrative response]

12 Assessment of UK national governments' overall response to the pandemic (effectively, UK residents are governed by four national assemblies)

- 12.1 The overall response of UK national governments to the pandemic was [Likert Scale 1=Inadequate 10=Adequate]
- 12.2 Do you think the UK's fragmented system of government (the UK has four national assemblies) reduced the effectiveness of the response to the pandemic? [Y/N]
- 12.2.1 If 'YES', in what ways did the UK's fragmented system of government reduce the effectiveness of the response to the pandemic? [narrative response]
- 12.3 Do you have any observations on the responses of individual UK national governments? [narrative response]

13 Assessment of the Westminster Government's safeguarding of the interests of commercial aviation during the pandemic

- 13.1 The Westminster Government's safeguarding of the interests of commercial aviation during the pandemic was [Likert Scale 1=Inadequate 10=Adequate]
- 13.2 Assessment of the Westminster Government's safeguarding of the interests of commercial aviation during the pandemic [narrative response]

14 Assessment of the international response to the pandemic

- 14.1 The international response to the pandemic was [Likert Scale 1=Disorganised 10=Organised]
- 14.2 The international response to the pandemic was [Likert Scale 1=Thoughtless 10=Thoughtful]
- 14.3 The international response to the pandemic was [Likert Scale 1=Incoherent 10=Coherent]
- 14.4 Please describe the best and worst experiences you had when operating into foreign states during the pandemic [narrative response]
- 14.5 What is your reaction to the World Health Organisation's call for a less partisan and more global and co-ordinated response to pandemic risk? [narrative response]

15 Financial compensation

- 15.1 Approximately what percentage of your salary was paid during each Furlough? Note we are not looking for an exact figure, just an approximation
 - 15.1.1 Percentage of salary paid during Furlough #1? [??]

[repeat five times, Furlough #2, Furlough #3, etc.]

- 15.2 Did you have to sell any of your assets, such as a watch, computer, heirloom, motorbike, car, boat, flat or house, to survive financially during Furlough? [Y/N]
- 15.3 Please describe how each Furlough affected your standard of living. What did you have to give up? What did you have to postpone doing? What did you have to sell, and why? [narrative response]

16 Observations

If you would like to raise an issue not covered in the questionnaire, please make your observations here [narrative response]

5.3 Appendix 3: The interview questions

Semi-structured interview questions

The questions are as follows:

- 1 Please discuss your experiences of lockdown, both bad and good experiences
- 2 Please discuss the economic impacts of Furlough on you and your family
- 3 Please discuss any health impacts of lockdown
- 4 Please reflect upon the behaviour of third parties (for example, Her Majesty's Government) towards the aviation industry during the pandemic (2020-2021)
- 5 What preparations should the industry make for the next pandemic?
- 6 What preparations should HMG make for the next pandemic?
- 7 What preparations should the international community make for the next pandemic?
- 8 Any final observations on anything to do with the pandemic and its management by HMG, the airlines, the regulator, the unions, etc.?

Dr S Bennett

10 May 2022

5.4 Appendix 4: Post-Furlough subjective performance assessments

5.4.1 Respondents who scored their first post-Furlough #1 duty (flight-deck or simulator) in the range 1-4

5.4.1.1 First duty subjective performance assessment = 4

Case 1

Age: 40s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 09/11/2020

Furlough #1 end date: 03/12/2020

Describe any training received/checks made/additional professional support given during Furlough #1: 'During Feb/March 2020 I was undertaking a type-rating (to be trained on a new aircraft type). The course was cancelled on the 17th March 2020. At this point I was effectively stuck between two aircraft types. Initially [my airline] did not know what they were planning to do with us, so I did not work from 17 March 2020 until late August 2020 (although I was not furloughed as [my airline] did not use the government Furlough scheme until Nov 2020 for pilots). I then headed back to my previous aircraft type and had one four-hour session in the simulator to get "back into the groove" of things and then the next day I was straight into a regular six monthly simulator check/assessment, which I was required to pass. The simulator check/assessment is carried out as two four-hour simulator sessions carried out over two consecutive days. Day 1 is usually "checking". Day 2 more training-focused. A month later I had 4 flights (over two days) with Training Captains to check I was "to standard".

Date of first duty after returning to work from Furlough #1: 09/12/2020

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: None

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Generally slow at most things/having to think/consider what I was doing/what I needed to do. These things would normally be second nature. Out of practice'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Again, generally slow at doing things and having to think through processes and procedures'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Threatening "fire and re-hire" with regards to negotiations on redundancy. Making/looking for (permanent) opportunities (such as pay/costs/contracts) in the face of a crisis!'

Case 2

Age: 50s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 01/04/2020

Furlough #1 end date: 03/12/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'No support whatsoever from [my airline]. I did my own voluntary sim visits, five in total, to stay current'.

Date of first duty after returning to work from Furlough #1: 03/12/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: None

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'First duty was B777 conversion course. I was very nervous. It felt like wading in treacle. Not just the academic side, but the operational side was extremely rusty with much small detail forgotten'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Stress. I pushed myself REALLY hard to get up to speed. 12-hour study days. I required medication to control stomach acid'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Assigned a personal support coach. Offered free instruction in sim to keep current. (Instructors volunteered their own time in fact). Offered a support service for financial issues. Been more tactful about desire to sack employee groups out of seniority'.

Case 3

Age: 50s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 01/12/2020

Furlough #1 end date: 01/09/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'I had a couple of days of sim refresher, then my 6 monthly check followed by a line sector'.

Date of first duty after returning to work from Furlough #1: 10/09/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: None

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'I've been flying for 25 years, but when I came back from Furlough I felt very rusty and missed lots of small things I wouldn't normally'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'It took at least 6 flights before I started feeling more comfortable'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'They could have taken less money off me'.

Case 4

Age: 40s

Rank: First Officer

Management role: No

Training role: Yes

Military flying experience: No

Furlough #1 start date: 01/04/2020

Furlough #1 end date: 01/09/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'No tangible support for furloughed pilots, but some emails with words of "support". On return, grand plans and claims of systemic change to adapt to skills fade/professional support and company empathy [found to be] all words no action. On the "Return to work", "welcome Back" remote call we were all told by one management pilot who kept job [to] "get over it". Retained employees were unwittingly ridiculing the tough job and life choices Furlough pilots had to make. New fleet typerating significantly disrupted with little to no support or justification from company'.

Date of first duty after returning to work from Furlough #1:

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 04/01/2022

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Rusty individual professional skills. Accelerated course (apparently cheaper). Poor planning by company. Inadequate support given to third-party provider'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Improvement, as getting back into swing of things'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Actual support for furloughed pilots (single point of contact). Regular relevant information. Clarity on job security. Change management culture: pretending we're the best and not delivering on promises to staff. Very unagile business and corporate culture'.

Case 5

Age: 30s

Rank: Captain

Management role: No

Training role: No

Military flying experience: None

Furlough #1 start date: 01/06/2020

Furlough #1 end date: 31/10/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'Kept current throughout with sim training every 30 days'.

Date of first duty after returning to work from Furlough #1: Date not provided

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: No detail provided

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Felt behind the aircraft due to lack of on-the-line training, and felt fearful to make any mistakes due to redundancies'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Slow, methodical operation was the only way to start getting ahead of the aircraft. Pressure continued for on-time performance and management messaging around redundancies. Also, everyone was rusty, from ground staff to ATC – even the passengers!'

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'They could have spoken to our humanity not to our cost on a spreadsheet. They could have offered support instead of fear. They

could have done more to address safety than signing off emails with "fly safe" after reminding you that your job is at risk, your pay is being slashed and your T&Cs [Terms and Conditions] are being obliterated'.

Case 6

Age: 20s

Rank: First Officer

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 01/04/2020

Furlough #1 end date: 01/10/2021

Describe any training received/checks made/additional professional support given during Furlough

#1: 'Three take-off and landings and computer-based training'.

Date of first duty after returning to work from Furlough #1: 05/07/2020

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Three take-off and landings and computer-based training'.

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Four months not flying. Change of Standard Operating Procedure: implementation of electronic flight-bag — all on first flight after lockdown. No gradual introduction of the changes'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Not enough training, either for the Captains or the First Officers'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Employer didn't pay 80% of salary pre-pandemic. [My employer has] been using the situation to implement a 20% pay-cut with [threats of] redundancies. Management have been getting their bonuses anyway. No "thank you" at all in financial compensation from the company for meeting them with 20% pay-cut. No rectification of payment, ... increase in living-cost indexation or compensation. Way more than 20% pay-cut, since Furlough wasn't close to 80% of pre-pandemic salary'.

Case 7

Age: 30s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 01/05/2020

Furlough #1 end date: 01/09/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'No personal contact from the company, just group emails every couple of weeks. A peer-support service was offered by the company'.

Date of first duty after returning to work from Furlough #1: 04/04/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Just a standard return-to-work package given to all after being away on part time'.

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'There will be a few but it is hard to recall from April 2021. Apologies'. [Author's note: It is understandable that the Captain cannot recall the detail of his first duty after returning to work, given that his first duty (April 2021) happened almost a year before he completed the on-line questionnaire]

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'There will be a few but it is hard to recall from April 2021. Apologies'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'The cabin crew at the closing bases were treated atrociously! The top management could have taken more of a pay cut than 20% ... per month for 2 months, while saying the company is in serious trouble and we need to let go of over 800 pilots! It felt like this whole "Orange Spirit" is not true'.

Case 8

Age: 30s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 01/04/2020

Furlough #1 end date: 01/02/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'Regular vlogs and training videos put out by company. Not mandated to watch'.

Date of first duty after returning to work from Furlough #1: 05/02/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Recency simulator, recurrent training and annual simulator check

completed. No flying duties completed prior to being re-furloughed'. [Author's note: second Furlough commenced 28/02/2021 and ended 15/11/2021]

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Did not feel particularly "on the ball" in the simulator, and feel performance – if I did complete a duty – would have replicated that'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'No duties completed. Struggled to maintain motivation to keep up to speed during Furlough as it became more apparent there was no short-term end in sight. Resorted to cramming if a duty appeared on the roster'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Handling of mitigation agreement, keeping everyone employed and paid was outstanding. Lack of foresight in return to operations – same pilots getting sectors as they are "experienced" in an attempt to de-risk the operation. Most pilots sitting round getting more out-of-check and rusty, which, when the inevitable ramp-up happens, will cause problems'.

Case 9

Age: 50s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 23/03/2020

Furlough #1 end date: Date not provided

Describe any training received/checks made/additional professional support given during Furlough #1: 'Did two refresher sims, that's it. Didn't hear from anyone in management directly, despite being told we would'.

Date of first duty after returning to work from Furlough #1: 15/03/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: None

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'None specifically. Just being away from it for 5 months plus at the start of command training made it difficult'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? No detail provided.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Better communications, and the ones we got were sometimes contradictory. But in fairness, with the utterly useless government and Minister in charge, it's to be expected'.

Case 10

Age: 60s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: Date not provided

Furlough #1 end date: Date not provided

Describe any training received/checks made/additional professional support given during Furlough #1: 'Recency sim'.

Date of first duty after returning to work from Furlough #1: Date not provided

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Recency sim'.

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Lack of recency'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Slow to react. Found interacting with people odd, all exacerbated by the continued appalling operation at LHR'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Everything'.

Case 11

Age: 50s

Rank: Captain

Management role: Yes

Training role: Yes

Military flying experience: No

Furlough #1 start date: Date not provided

Furlough #1 end date: Date not provided

Describe any training received/checks made/additional professional support given during Furlough #1: 'None. Once I was made redundant from the management role, I was moved back to the line at a base which subsequently closed. After 20 years in the company you felt like you were just a number and thrown on the scrap heap'.

Date of first duty after returning to work from Furlough #1: Date not provided

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Return-to-work simulator session. No mental support given whatsoever'.

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Significant weather challenges and mental distraction ... being faced with another round of redundancy in the space of 2-weeks due to a base closure'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Mental distractions leading to minor errors'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: '[For information] I wasn't ever put on Furlough and worked full-time in my managerial role at home. This included home schooling the children whilst my wife continued to work (NHS). The overarching feeling was one of impending doom. Redundancy hung over you whilst you waited to hear your fate. To cope with the mental challenges, keeping fit helped. Apart from that you were mostly left with your thoughts and this proved very challenging at times when you had no idea how your future would possibly pan out'.

'I asked for flexibility rather than redundancy of my management role. That is, could I reduce my office-based responsibilities down to one day a week, etc.? It felt like if you were a pilot in a management role and not directly connected with the safety team you were out, regardless of the contribution. Little acknowledgement of the extra work done (i.e. beyond the job description), and its contribution to the overall business. New(ish) management didn't realise that prior to the management role I was, and still was, employed as a Training Captain. As a result of my redundancy, I also lost my Training Captain role which I subsequently had to fight very hard to re-acquire. Acknowledgement of length of service and the overall contribution to the company'.

Case 12

Age: 30s

Rank: First Officer

Management role: No

Training role: Yes [CRM Instructor and Groundschool Instructor]

Military flying experience: No

Furlough #1 start date: 01/03/2020

Furlough #1 end date: 01/07/2020

Describe any training received/checks made/additional professional support given during Furlough #1: None

Date of first duty after returning to work from Furlough #1: 23/07/2020

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Bi-annual recurrent simulator in June 2020, five weeks before first flying duty. Reset 90-day recency, but no additional training or support. Simulator instructor very pragmatic about lack of recency, and expectations accordingly. No formal company training or support'.

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Really struggled with SOPs – reverting to old procedures. Muscle-memory poor, so panelscans and cockpit flows were slow, and often had to be repeated. Setting-up took roughly five times longer than pre-COVID, with 2-3 attempts at certain flows or tasks'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'As above, but less so, returning to normal within about ten duties'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Senior management and airline board sharing the financial pain, and "in it together" with the workforce (forcing two months unpaid leave on all crew employees in summer 2020, whilst CEO, COO, CFO and other senior company managers only taking a 20% pay-cut for the same 2 months) then returning to full pay when all the crew were taking significant pay cuts/part time to save the business'.

5.4.1.2 First duty subjective performance assessment = 3

Case 1

Age: 40s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #1 start date: 01/05/2020

Furlough #1 end date: 10/11/2021

Describe any training received/checks made/additional professional support given during Furlough

#1: None

Date of first duty after returning to work from Furlough #1: 10/11/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'Full type-rating and technical quiz'.

First duty subjective performance assessment: 3

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'No exposure to the operation for eighteen months. First duty was ground-school. First flight was mid December 2021'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Re-establishing triggers for various actions was the most challenging. Also, having moved to a new highly-automated type (Boeing 787), a number of the normal triggers no longer existed, so I needed to develop new cues. Still getting there several months later'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'We have a well-established seniority system which the company disregarded completely, resulting in pilots such as myself who were senior enough to retain long-haul commands being placed into a pool known as CRS, whilst more junior pilots from the same fleet were given those commands. Had they stuck to what we have always done and relied upon the stress and anxiety would have been significantly reduced. Those in CRS had no guarantee of return'.

5.4.1.3 First duty subjective performance assessment = 1

Case 1

Age: 60s

Rank: Captain

Management role: No

Training role: No

Military flying experience: Yes [18 years]

Furlough #1 start date: 01/03/2020

Furlough #1 end date: 31/08/2021

Describe any training received/checks made/additional professional support given during Furlough #1: 'Medical kept up to date. LPC/OPC and normal simulator and ground-school training carried out during Furlough. By TEAMS where possible'.

Date of first duty after returning to work from Furlough #1: 05/09/2021

Describe any training received/checks made/additional professional support given between end of Furlough #1 and first duty: 'There was a process to regain currency. This was a shortened version of the normal process to regain currency that would have applied outside COVID times. I was supposed to receive 4 hours training in a full flight sim prior to my check sim, but this was not given. I found the LPC/OPC extremely difficult after being off flying for two years and doing it without any training. If the company had wanted to destroy my confidence, they could not have done a better job'.

First duty subjective performance assessment: 1

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Total lack of recency/practice. Given a difficult simulator profile that was designed to catch

you out. Unsympathetic and unrealistic examiner. I passed, but felt very useless compared to my normal performance'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'I got a lot better very quickly'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Better training on returning to duty'.

5.4.2 Respondents who scored their first post-Furlough #2 duty (flight-deck or simulator) in the range 1-4

5.4.2.1 First duty subjective performance assessment = 4

Case 1

Age: 50s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #2 start date: Date not provided

Furlough #2 end date: Date not provided

Describe any training received/checks made/additional professional support given during Furlough #2: 'I basically did four flights in 18 months, with a refresher sim and my mandatory recurrent sim'.

Date of first duty after returning to work from Furlough #2:

Describe any training received/checks made/additional professional support given between end of Furlough #2 and first duty: No detail provided

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? No detail provided

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? No detail provided

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Better communications, and the ones we got were sometimes contradictory. But in fairness, with the utterly useless government and Minister in charge, it's to be expected'.

Case 2

Age: 40s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #2 start date: 04/01/2021

Furlough #2 end date: 08/01/2021

Describe any training received/checks made/additional professional support given during Furlough

#2: None

Date of first duty after returning to work from Furlough #2: 11/01/2021

Describe any training received/checks made/additional professional support given between end of

Furlough #2 and first duty: None

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they

arose? 'Much as previously mentioned. I can't specifically recall'.

Describe any personal performance issues experienced during subsequent duties. Why do you think

they arose? No detail provided

With respect to mitigating the impacts of the pandemic on you as an employee, are there things

your employer could have done better? Yes

Please describe the things your employer could have done better: 'Threatening "fire and re-hire" with regards to negotiations on redundancy. Making/looking for (permanent) opportunities (such as

pay/costs/contracts) in the face of a crisis!'

Case 3

Age: 30s

Rank: First Officer

Management role: No

Training role: No

Military flying experience: No

Furlough #2 start date: 01/11/2020

Furlough #2 end date: 01/10/2021

Describe any training received/checks made/additional professional support given during Furlough

#2: 'LPC/OPC cycle at end of second Furlough'.

Date of first duty after returning to work from Furlough #2: Date not provided

Describe any training received/checks made/additional professional support given between end of Furlough #2 and first duty: None

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Not quite as rusty as post first lockdown. Due to LPC/OPC three-day training cycle just before first flight back on the line'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Again rusty operation, slower pace, additional time required for decisions and planning. Company-imposed automation policy, which presented an operation more reliant on automation and less on manual handling. Arguments for and against this policy'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'To have even provided the illusion of caring about its workforce would have been nice. Disdainful treatment of crew both sides of flight deck door. A disgusting attempt at manipulating our vulnerable position to destroy hard-earned terms and conditions, which is unforgiveable. A piecemeal attempt at addressing the impact mentally of lockdowns, Furlough, threat of redundancy or job/licence loss through lack of currency/recency. Not a single person in management could even throw together a bulk-send email to the workforce to offer an ear, or a channel of communication for those that may have felt it necessary, but were perhaps worried to make contact'.

Case 4

Age: 40s

Rank: Captain

Management role: No

Training role: Yes

Military flying experience: No

Furlough #2 start date: 01/01/2021

Furlough #2 end date: 01/06/2021

Describe any training received/checks made/additional professional support given during Furlough #2: None

Date of first duty after returning to work from Furlough #2: Date not provided

Describe any training received/checks made/additional professional support given between end of Furlough #2 and first duty: No detail provided

First duty subjective performance assessment: 4

Describe any personal performance issues experienced during the first duty. Why do you think they arose? No detail provided

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Pressure on myself to perform at the standard I was used to, not the new rusty standard!'

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'It is such a huge base that it is very difficult to find a personal touch – but not impossible. Putting pilots in touch with each other through social media. Weekly or monthly catch-ups'.

5.4.2.2 First duty subjective performance assessment = 2

Case 1

Age: 30s

Rank: Captain

Management role: No

Training role: No

Military flying experience: No

Furlough #2 start date: 28/02/2021

Furlough #2 end date: 15/11/2021

Describe any training received/checks made/additional professional support given during Furlough #2: 'Minimal'.

Date of first duty after returning to work from Furlough #2: 29/12/2021

Describe any training received/checks made/additional professional support given between end of Furlough #2 and first duty: 'Retrained onto new type – previous experience (reduced) course completed'.

First duty subjective performance assessment: 2

Describe any personal performance issues experienced during the first duty. Why do you think they arose? 'Felt behind, as new aircraft type, and not flown in approximately 18 months. Lack of experience, lack of sectors, minimal training required by course given [one assumes the respondent means that the course delivered to students the minimal preparatory training]. Would have benefitted from additional simulator sessions to capture lack of recent experience'.

Describe any personal performance issues experienced during subsequent duties. Why do you think they arose? 'Only completed one flying duty, now on extended part time off'.

With respect to mitigating the impacts of the pandemic on you as an employee, are there things your employer could have done better? Yes

Please describe the things your employer could have done better: 'Handling of mitigation agreement, keeping everyone employed and paid was outstanding. Lack of foresight in return to operations – same pilots getting sectors as they are "experienced" in an attempt to de-risk the

operation. Most pilots sitting round getting more out-of-check and rusty, which, when the inevitable
ramp-up happens, will cause problems'.

6 Bibliography

Airports Commission (2015) *Business Case and Sustainability Assessment – Heathrow Airport Northwest Runway*. London: Airports Commission.

Air Transport Action Group (2020) *Aviation: Benefits Beyond Borders*. Geneva: Air Transport Action Group.

American Psychiatric Association (2013) *Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition)*. Arlington VA: American Psychiatric Association.

Bennett S.A. (2016) Disasters and Mishaps: The Merits of Taking a Global View. In Masys, A.J. (Ed.) *Disaster Forensics: understanding root cause and complex causality*. Cham: Springer International Publishing, pp. 151-173.

Bennett, S.A. (2019) Crew resource management's contribution to flight safety and operational effectiveness at the UK National Police Air Service, as understood by flight-crew. *International Journal of Human Factors and Ergonomics*, Volume 6 Number 2, pp. 160-178.

Bennett, S.A. (2019) *Systems-thinking for Safety*. Oxford: Peter Lang International Academic Publishers.

Bennett, S.A. (2020) The training and practice of Crew Resource Management (CRM): An *in vivo* study of the UK National Police Air Service. *International Journal of Human Factors and Ergonomics*, Volume 7 Number 3, pp. 225-244.

Bennett, S.A. (2021) How politics shapes pandemics. In Masys, A.J. (Ed.) *Sensemaking for Security*. Cham: Springer International Publishing, pp. 201-227.

Bennett, S.A. (2022) *Safety in Aviation and Astronautics: A socio-technical approach*. London: Routledge.

Beyea, S.C. (2004) Employee morale and patient safety. *Association of Perioperative Registered Nurses Journal*, Volume 80 Number 6, pp. 1123-1126.

Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (2015) *Preliminary Report Accident on 24 March 2015 at Prads-Haute-Bléone (Alpes-de-Haute-Provence, France) to the Airbus A320-211 registered D-AIPX operated by Germanwings*. Paris: Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile.

Bowles, D. and Cooper, C. (2009) *Employee Morale: Driving Performance in Challenging Times*. London: Palgrave Macmillan.

British Broadcasting Corporation (2022) Ukraine conflict: Petrol at fresh record as oil and gas prices soar. Available at: https://www.bbc.co.uk/news/business-60642786/ (Accessed 7 June 2022).

Campbell, R.D. and Bagshaw, M. (1999) *Human Performance and Limitations in Aviation (Second Edition)*. Oxford: Blackwell Science.

Cao, Y., Hiyoshi, A. and Montgomery, S. (2020) COVID-19 case-fatality rate and demographic and socioeconomic influencers: worldwide spatial regression analysis based on country-level data. *BMJ open*, Volume 10 Number 11, e043560.

Child Poverty Action Group (2020) *Poverty in the Pandemic: The impact of coronavirus on low-income families and children*. London: Child Poverty Action Group.

Civil Aviation Authority (2020) *Safety Notice SN*–2020/014: Pandemic and Return to Re-defined 'Normal' Flight Operations. London: Civil Aviation Authority.

Cohen, D. and Morris, J. (2021) COVID: The 'working poor' are hardest hit, Sheffield study finds. Available at: https://www.bbc.co.uk/news/health-56334982/ (Accessed 9 May 2022).

Cullen, P., Cahill, J. and Gaynor, K. (2018) Pilot mental health – the lived experience. *Focus on Commercial Aviation Safety*, Issue 110, pp. 10-14.

Day, G.E., Minichiello, V. and Madison, J. (2006) Nursing morale: what does the literature reveal? *Australian Health Review*, Volume 30 Issue 4, pp. 516-524.

Drew, S. (2021) Heathrow Third Runway: Boris Johnson casts doubt on airport expansion plans. Available at: https://www.getreading.co.uk/whats-on/whats-on-news/heathrow-third-runway-boris-johnson-22055924 (Accessed 5 May 2022).

Durbin, S., Warren, S. and Munns, M. (2022) What is the future for gender diversity in the pilot trainer role? Myth or reality? London: Royal Aeronautical Society.

Ellen, R.F. (1984) (Ed.) Ethnographic Research: A guide to general conduct. London: Academic Press.

European Aviation Safety Agency (2018) EASA welcomes new rules on mental fitness of air crew. Available at: https://www.easa.europa.eu/newsroom-and-events/news/easa-welcomes-new-rules-mental-fitness-air-crew/ (Accessed 12 May 2022).

European Centre for Disease Prevention and Control (2022) Questions and answers on COVID-19: Basic facts. Available at: https://www.ecdc.europa.eu/en/covid-19/questions-answers/questio

Gan, N. (2022) Flight data suggests China Eastern plane deliberately crashed: Wall Street Journal report. Available at: https://edition.cnn.com/2022/05/18/china/china-eastern-crash-wsj-report-inlt-hnk/index.html (Accessed 19 May 2022).

Geertz, C. (1973) The Interpretation of Cultures. New York NY: Basic Books.

Hashmi, E. (2021) 'I spent £70,000 on pilot training but can't get a job'. Available at: https://www.bbc.co.uk/news/business-57449833/ (Accessed 9 May 2022).

Havard, T. (2021) Domestic abuse and Covid-19: A year into the pandemic. Available at: https://commonslibrary.parliament.uk/domestic-abuse-and-covid-19-a-year-into-the-pandemic/(Accessed 10 June 2022).

Hockley, T. (2021) The Brexit vaccine war is a failure of empathy. Available at: https://blogs.lse.ac.uk/brexit/2021/03/24/the-brexit-vaccine-war-is-a-failure-of-empathy (Accessed 6 May 2022).

Howard, L. and Morris, S. (2020) Six million people in UK behind on bills due to pandemic, with one in five selling possessions to stay afloat. A fifth of the UK are also going without essentials, including food. Available at: https://www.dailyrecord.co.uk/lifestyle/money/six-million-people-uk-behind-22555748/ (Accessed 11 May 2022).

Icon Films (2018) Tom Harrisson – the barefoot anthropologist. Available at: https://iconfilms.co.uk/productions/past-productions/tom-harrisson-the-barefoot-anthropologist.html. (Accessed 27 August 2018).

International Civil Aviation Organisation (2012) *Manual of Civil Aviation Medicine. Doc 8984. AN/895 (Third Edition)*. Montreal: International Civil Aviation Organisation.

Janis, I.L. (1972) Victims of Groupthink: A Psychological Study of Foreign-Policy Decisions and Fiascos. Boston MA: Houghton Mifflin.

Kanki, B., Helmreich, R. and Anca, J. (Eds.) (2010) *Crew Resource Management (Second Edition)*. New York NY: Elsevier.

Kofman, A. (2018) Bruno Latour, the Post-Truth Philosopher, Mounts a Defence of Science. He spent decades deconstructing the ways that scientists claim their authority. Can his ideas help them regain that authority today? Available at: https://www.nytimes.com/2018/10/25/magazine/bruno-latour-post-truth-philosopher-science.html (Accessed 3 May 2022).

Latour, B. (2005) *Reassembling the Social – An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Latour, B. and Woolgar, S. (1979) *Laboratory Life. The social construction of scientific facts*. Beverly Hills CA: Sage Publications.

Lawton, T.C. (2002) *Cleared for Take-Off. Structure and strategy in the low-fare airline business*. Aldershot: Ashgate Publishing Ltd.

L3Harris Airline Academy (2020) How much do pilots earn in the UK? Available at: https://l3harrisairlineacademy.com/en-gb/about-us/blog/how-much-do-pilots-earn-in-the-uk/ (Accessed 9 May 2022).

L3Harris Flight Academy (2021) Airline pilot salary: How much does a pilot earn in the US? Available at: https://l3harrisairlineacademy.com/en-us/about-us/blog/how-much-does-a-pilot-earn-in-the-us/ (Accessed 9 May 2022).

Madge, C. and Harrisson, T. (1937) Mass-Observation, (pamphlet). London: Frederick Muller.

Malaysian ICAO Annex 13 Safety Investigation Team for MH370 (2018) *Safety Investigation Report. Malaysia Airlines Boeing B777-200ER (9M-MRO) 08 March 2014*. Putrajaya: Office of the Chief Inspector of Air Accidents, Ministry of Transport, Malaysia.

Mason, R. (2021) Boris Johnson will travel home from Cop26 by private plane. Available at: https://www.theguardian.com/politics/2021/nov/01/boris-johnson-will-travel-home-from-cop26-by-private-plane (Accessed 5 May 2022).

Mass Observation (2022) Mass Observation: Recording everyday life in Britain. Available at: http://www.massobs.org.uk/ (Accessed 17 May 2022).

Masters, S. (2014) WHO missed 'the disaster of our times'. The Independent on Sunday, 19 October.

National Transportation Safety Board (2002) *Aircraft Accident Brief, EgyptAir Flight 990, Boeing 767-366ER, SU-GAP, 60 Miles South of Nantucket, Massachusetts, October 31, 1999.* Washington DC: National Transportation Safety Board.

Nealon, J. and Cowling, B.J. (2022) Omicron severity: milder but not mild. *The Lancet*, Volume 399 Number 10323, pp. 412-413.

Orlady, L. (2010) Airline Pilot Training Today and Tomorrow. In Kanki, B., Helmreich, R. and Anca, J. (Eds.) *Crew Resource Management (Second Edition)*. New York NY: Elsevier.

Payscale.com (2022) Search Job Salaries. Available at: https://www.payscale.com/research/UK/Job/ (Accessed 9 May 2022).

Reason, J. (2005) Safety in the operating theatre—Part 2: Human error and organisational failure. *BMJ Quality and Safety*, Volume 14 Number 1, pp. 56-60.

Reason, J. (2013) A Life in Error. From Little Slips to Big Disasters. Farnham: Ashgate Publishing Ltd.

Refuge (2022) A year of lockdown: Refuge releases new figures showing dramatic increase in activity. Available at: http://refuge.org.uk/a-year-of-lockdown/ (Accessed 10 June 2022).

Rimmer, A. (2016) Junior doctors' low morale is putting patients at risk, Royal College of Physicians warns. *BMJ: British Medical Journal*, (Online), 355.

Saunders, P.J. and Turekian, V. (2007) Why Climate Change Can't Be Stopped. Available at: https://foreignpolicy.com/2007/09/25/why-climate-change-cant-be-stopped/ (Accessed 9 June 2022).

Seppälä, E. and Cameron, K. (2015) Proof That Positive Work Cultures Are More Productive. Available at: https://hbr.org/2015/12/proof-that-positive-work-cultures-are-more-productive/(Accessed 5 June 2022).

Soufan, A. and Sales, N. (2022) One of the worst ways Putin is gaslighting the world on Ukraine. Putin isn't fighting neo-Nazism. He nurtures it, making his pretext for invading Ukraine even more repellent. Available at: https://www.nbcnews.com/think/opinion/putin-nazi-pretext-russia-war-ukraine-belied-white-supremacy-ties-rcna23043/ (Accessed 7 June 2022).

Srivastava, A.K. and Krishna, A. (1980) The effect of job-anxiety on job performance. *The Indian Journal of Social Work*, Volume 41, pp. 255-260.

Summerfield, P. (1985) Mass-Observation: Social Research or Social Movement? *Journal of Contemporary History*, Volume 20 Number 3, pp. 439-452.

Taylor, F.W. (1911) The Principles of Scientific Management. New York NY: Harper and Brothers.

Taylor, P., Richardson, J., Yeo, A., Marsh, I., Trobe, K. and Pilkington, A. (1995) *Sociology in Focus*. Ormskirk: Causeway Press.

The Guardian (2022) The Guardian view on China's zero-COVID strategy: No way out? Editorial. Available at: https://www.theguardian.com/commentisfree/2022/apr/20/the-guardian-view-on-shanghais-lockdown-the-costs-of-zero-covid/ (Accessed 6 May 2022).

Topham, G. (2020) Don't become a pilot as there are no jobs, just huge debts, says union. Available at: https://www.theguardian.com/business/2020/nov/05/dont-become-a-pilot-as-there-are-no-jobs-just-huge-debts-says-union-balpa-covid-europe-unemployed/ (Accessed 9 May 2022).

Tozer-Pennington, V. (2022) *The Aviation Industry Leaders' Report 2022: Recovery through Resilience*. Stoke-On-Trent: Aviation News Ltd.

Transport Committee (2022) *UK aviation: reform for take-off. Fifth Report of Session 2021–22*. London: House of Commons.

Troy, G. (2009) The Reagan Revolution. New York NY: Oxford University Press.

US Bureau of Labour Statistics (2022) Occupational Outlook Handbook. Available at: https://www.bls.gov/ (Accessed 9 May 2022).

Vuorio, A., Laukkala, T., Junttila, I., Bor, R., Budowle, B., Pukkala, E., Navathe, P. and Sajantila, A., (2018) Aircraft-assisted pilot suicides in the general aviation increased for one-year period after 11 September 2001 attack in the United States. *International Journal of Environmental Research and Public Health*, Volume 15 Issue 11, p. 2525.

Warr, P. (2002) The Study of Well-being, Behaviour and Attitudes. In Warr, P. (Ed.) *Psychology at Work (Fifth Edition)*. London: Penguin.

Weakliem, D.L. and Frenkel, S.J. (2006) Morale and Workplace Performance. *Work and Occupations*, Volume 33 Issue 3, pp. 335-361.

Wikimedia Commons (2022) Visualisation mode median mean. Available at: https://commons.wikimedia.org/wiki/File:Visualisation_mode_median_mean.svg/ (Accessed 14 April 2022).

Wise, J. (2022) Covid-19: Symptomatic infection with omicron variant is milder and shorter than with delta, study reports. *British Medical Journal*, 377.

World Health Organisation (2020) Ebola virus disease. Available at: https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease/ (Accessed 21 May 2020).

World Relief (2022) *Pandemic and Poverty: COVID-19. Impact on the World's Poor*. Baltimore MD: World Relief.

Zhou, N. (2019) MH370: five years of theories about one of aviation's greatest mysteries. Available at: https://www.theguardian.com/world/2019/mar/07/mh370-five-years-of-theories-about-one-of-aviations-greatest-mysteries/ (Accessed 3 June 2022).

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